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SCIENCE · FICTION · MAGAZINE

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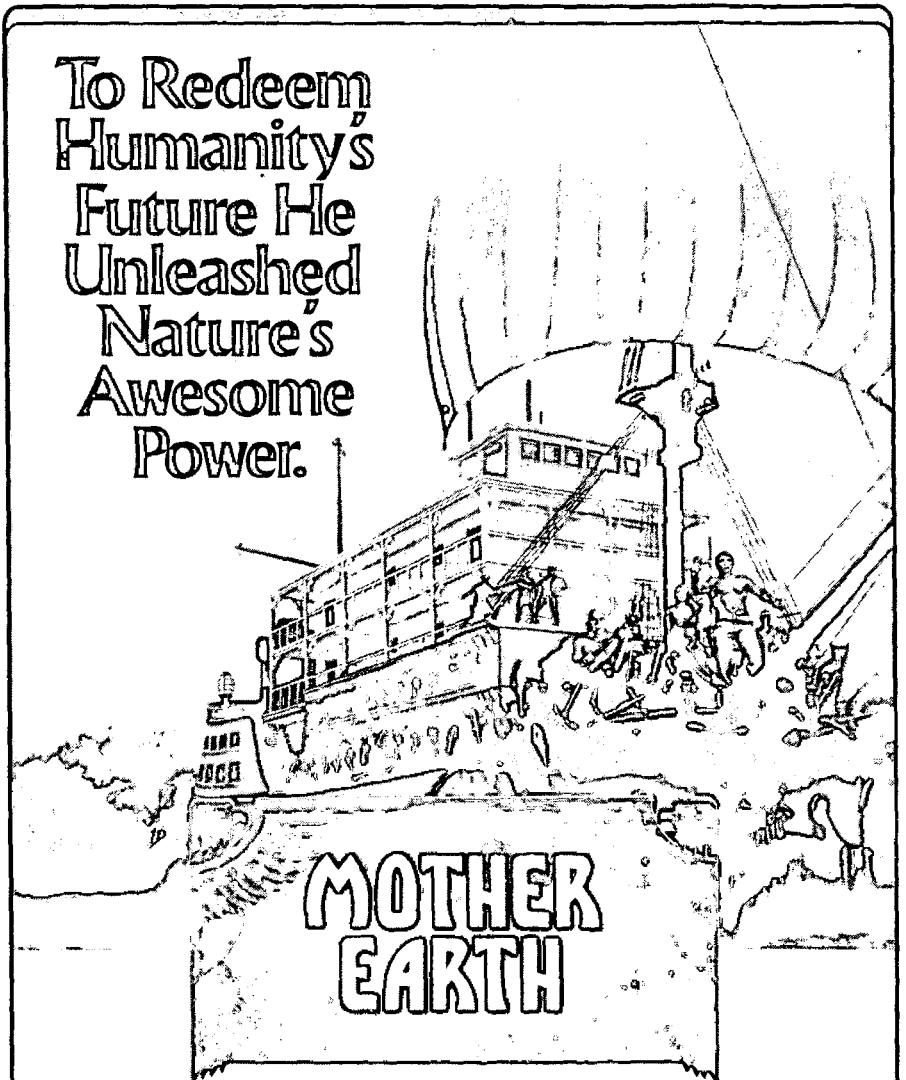

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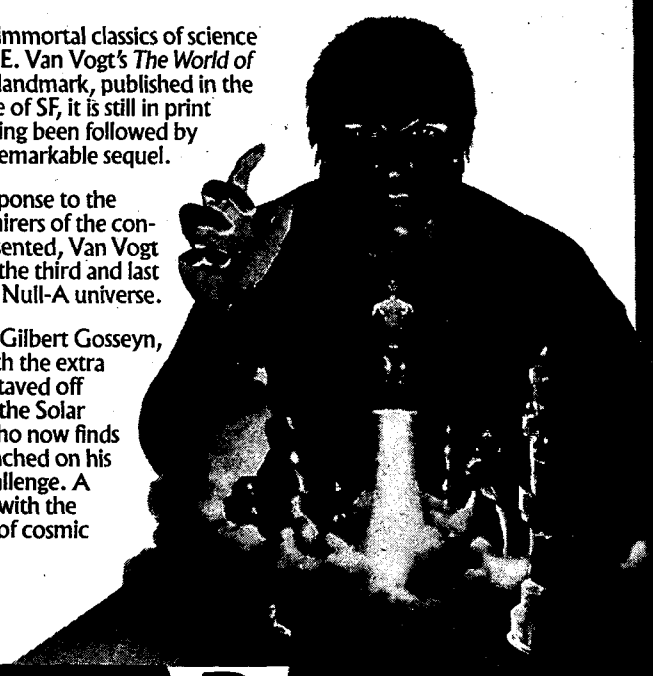

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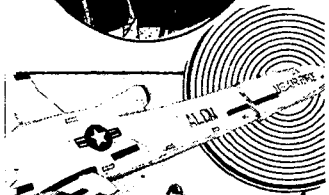

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EDITORIAL

by Isaac Asimov

STAR WARS!

Elsewhere in this issue is an article by my good friend, Poul Anderson (as decent and intelligent a person as I have ever met) entitled "Star Peace?" I want to present here a view that does not agree with Poul's in all respects.

In the first place, I'm not at all sure that "no sane man" wants a nuclear war. I think that there are ideologues who would be delighted to fight a nuclear war they thought they could win. Two or three years ago, Reagan and Weinberger speculated on the possibility of a "limited" nuclear war, till wiser heads prevailed upon them not to talk about it.

I do agree with Poul that the policy of "Mutual Assured Destruction," with its apt acronym of "MAD" is, indeed, mad. Poul mentions that it was introduced by Lyndon Johnson and Robert McNamara, with (perhaps) the implication it originated in the minds of (if you'll excuse my using a dirty word) liberals. Perhaps so, but I was alive at the time and I have a good memory and I don't remember conservatives howling against it. I don't remember any move on the part of the Republican right to limit the number of atom bombs we should build.

For myself, I must admit Johnson and McNamara were no heroes of mine. I put myself, in print and on the record, from the very start, against their steady escalation of the Vietnam War (at a time when Poul was, in print and on the record, all for it). I was also against the nuclear arms race (on both sides) and it is just possible Poul was all for our outpacing the Soviets in this, and, as a matter of fact, he seems annoyed in his article that, according to his figures, we *didn't* outpace them and, therefore, weren't MAD enough.

I can't argue the technology of Star Wars. I don't know enough. I can't even argue the expense of it. I don't know enough. However, I don't think anyone knows enough to argue such things at this point.

What I do know is that every large war-related project has always proved more difficult than expected, has always taken longer than expected, and has always been more expensive than expected. I see no reason to suppose that Star Wars will be a miraculous exception to this general rule.

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Now the question in my mind is this: Why are conservatives so gung-ho on Star Wars?

The natural answer is that, being sane, they love peace. Yes, but why peace via Star Wars rather than through disarmament, let us say? Disarmament is "pie in the sky," to be sure, but so is Star Wars. We can't trust the Soviets to disarm honestly, but neither can we trust the Soviets not to try to build a Star Wars of their own and perhaps get there first and make themselves invulnerable to us at a time when we are not invulnerable to them.

Is it impossible the Soviets can match us? Ever since 1945, we have developed weapons system after weapons system, each one designed to make us "secure" at last. In each case, the Soviets persistently and resolutely matched us, so that both we and they are more insecure than ever.

And yet there *is* a difference between disarmament and Star Wars as far as assuring peace is concerned.

If there is mutual disarmament, even supposing that it can be brought about and that the Soviets and we both stick to it faithfully, where does it leave us? I will omit any consideration of what the lack of war-jobs will do to either economy. Just consider that if we and the Soviets disarm, the Soviets will still be in existence and will still irritate us and behave in a manner that most of us would find horribly offensive, and we'll have to live with that.

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But suppose we go the Star Wars route, and suppose we get there first. That is, after all, to be expected. We can certainly outspend the Soviets and we have good old "Yankee know-how" on our side.

Well, then, supposing that, where are we? We will then be able to knock down most or all their missiles if they attack, and then hand out a counterblow that will destroy them, so that, being sane, the Soviets will not attack, and we will have peace. In fact, Poul points out that Reagan has twice suggested that we will share the technology with the Soviets, so that they can be invulnerable, too. Then there will be peace on both sides, a situation Poul calls "Star Peace," though he is honest enough to place a question mark after the phrase.

Now obviously we are not going to give the Soviets the technology while we are in the process of developing it, because the Soviets could not be trusted to give us any advances *they* have worked out and to give them ours while not receiving theirs would be to make certain they will develop Star Wars first.

It is only *after* we have worked out a completed Star Wars and put it in place that we will give them the technology.

But will we? Will anyone who believes we will please raise his or her hand? If anyone did, which I doubt, listen—

The fact is, we can't and we won't. Suppose we give them the technology and allow a Soviet Star Wars in space alongside ours. Now they can't fire missiles at us and we can't fire missiles at them. Both sides can still use submarines, however, and other tricks for setting off explosions without going into space. In addition, both we and the Soviets can make use of tanks and ordinary bombing planes and, in general, an improved non-nuclear technology. After all, both sides may have Star Wars, but neither side has disarmed.

In that case, how do we stop the Soviets from walking all over Western Europe? It's only our nuclear arsenal that we can count on to stop them. In short, a Star Wars on both sides means that we may be forced to fight a relatively conventional war with the Soviets, and in such a war the odds will be on the Soviet side.

So why did President Reagan say we will give them the technology? I wouldn't dream of saying it's because he doesn't know what he's talking about. It is quite sufficient to remind you there are such things as "campaign promises."

Now, then, we have Star Wars and we *don't* give the technology to the Russians, and so they don't have it. We are invulnerable to a major nuclear strike and they are not. Isn't that perfect? We just tell them what we want them to do. Throw out your Communist government, we will tell them, and elect a good Republican one, allowing a few Democrats (not too many) in the opposition. If they don't do it, they know darn well we can clobber them with any number of

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missiles and they will have no way of retaliating.

So they surrender and that is peace indeed! Far better than disarmament, isn't it?

Except that the Soviets will see that we are putting Star Wars in place and that we are en route to invulnerability and Soviet surrender. They will surely see this several years in advance. What will they do? Will they not be tempted to launch a desperate first strike in the hope they may stave off total defeat?

You don't think so? Well then, what if, to our total surprise, we see that the Soviets are on the way to invulnerability before we are, and that it is we who are on the way to a total surrender to the "Evil Empire." What will we do? Think about it.

Here's something else. Do you think we will use space only for defensive weapons? Come on, is there anyone out there who believes that? If you do, put it this way—do you think the Soviets will build only defensive weapons? And if we're sure they're planning offensive weapons, won't we build them too? And won't the Soviets be building them because they'll be sure we are?

Is it possible, though, that this is a fairy tale I am handing you? Does it seem really likely that the Star Wars enthusiasts are thinking along warlike lines? Couldn't they really want peace? —Well, let's consider something else.

In the last couple of years, the notion of a "nuclear winter" has been advanced. Some scientists maintain that in case of even a moderate number of thermonuclear explosions, enough dust from impact, plus smoke from fire-storms, will fill the stratosphere and cut off sunlight for a long enough period to destroy a major portion of Earth's plant life, so that animals (and proud humanity) will then perforce starve. If the exchange is bad enough, virtually all life may be wiped out.

The *possibility* is real enough. We all know the "mushroom clouds" that are produced by nuclear bombs. What do you suppose makes them up if not dust particles of all sizes? Single volcanic eruptions have introduced climatic changes, and in some cases the changes have been detectable world-wide.

I consider the "nuclear winter" debatable, of course, since we can only calculate the results, not observe them directly, but I feel the likelihood is too great to *dare* make a direct observation. ("Say, let's have a nuclear war and see if we wipe out all of humanity, or only half!")

Nevertheless, the very same people who are all for Star Wars object furiously to the very notion of a "nuclear winter." In his article, Poul speaks very mildly concerning the "nuclear winter" but in an earlier letter to Shawna and myself (which I presume I may quote since he did not say it was confidential) he says of the "nuclear winter" that

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"the left liberal establishment is giving it a hard sell."

I think we might equally well say with respect to the "nuclear winter" that the right conservative establishment (which controls the government right now) is giving it a very hard *negative* sell.

Why?

Could it be because a "nuclear winter" makes a first strike forever impossible? What is the use of shooting off your arsenal to destroy an enemy if the result is a "nuclear winter" that does indeed destroy the enemy, *and* all the neutrals, *and* you yourself.

Imagine that we have a Star Wars in place, and serve the Soviets with an ultimatum: Behave yourselves or we destroy you!

The Soviets say: "We have no defense but you can't destroy us without destroying yourself, too. Shoot, then. We dare you."

And what do we do? Obviously, if we are sane, we don't shoot, and we are then forced perhaps to fight a semi-conventional war that we may not be able to win. No wonder the Star Wars enthusiasts are furious over the mere suggestion of a "nuclear winter."

If we are not sane, of course, we can issue a presidential proclamation to the effect that no such thing as a "nuclear winter" exists, and fire our arsenal.* After all, if the "nuclear winter" *does* then swirl down upon us we can always say, "Oops!"

It seems clear to me, then, that there is only one way out of the impasse and that is careful disarmament to very low levels on all sides. Perhaps this can't be done, but if not, then I don't think civilization can long survive, and Star Wars can't and won't save us. ●

*After this article was written, the Pentagon announced there may be something to the "nuclear winter," but they probably haven't cleared that with President Reagan.

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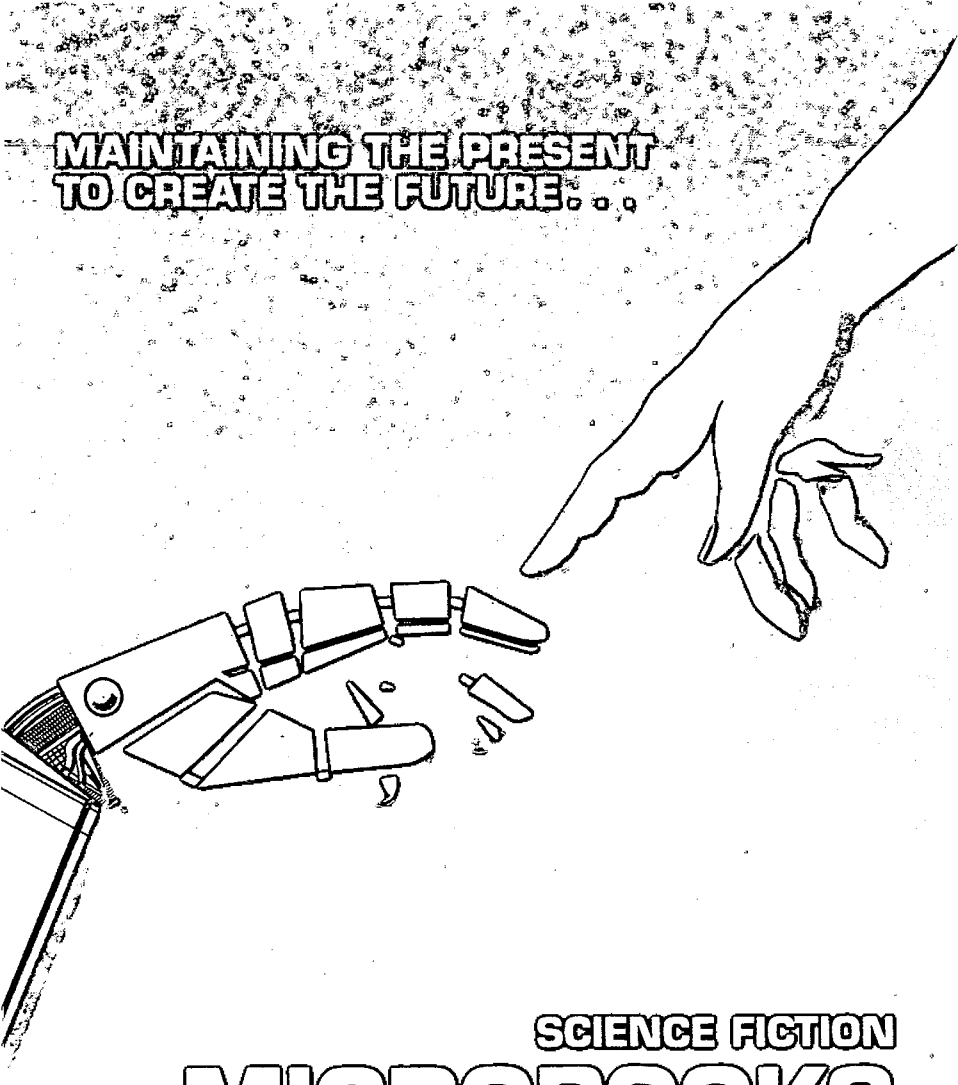

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LETTERS

To the Editors, Greetings and Hallucinations:

Although I've been a science fiction fan since my first childhood, I've never sat myself down and written a letter to a magazine before. Since divine intention and positive reinforcement conspired that I should buy your November issue, it only seems appropriate to show some appreciation for the work therein.

First, I must gush over "The Kindly Isle" by Frederik Pohl—a wonderful idea, virus-induced sanity. Or rather, virus-induced freedom from insanity. Very well-constructed, well-paced, but I can't help but wonder about the technical part. The kind of confidence and optimism that I have in this or any other military-industrial complex suggests to me that even if a decent man rebelled from the biological warfare labs in which he worked and instead produced desirable changes in mankind, the schnook would be less likely to seek a poorly defined effect such as kindliness or sanity and much more likely to work on such obviously beneficial and fairly specific human traits as obedience, chastity, and Protestantism, not to mention upward-mobility and greed. Not that there is any scarcity of those traits, but they are more conspicuous and therefore potentially more appealing as goals to our hypothetical mad biologist than would be the rather nebulous absence of traits such as meanness, suspicion, etc. But my pessimism in no way detracts from Mr. Pohl's writing; I found his story to be excellent, and his outlook perhaps preferable to my own.

"Findokin's Way" by Robert F. Young appealed to me strongly out of a certain personal identification. I don't have the excuse of being a long-lived alien who formed his employment habits during the Great Depression, but I, like Findokin, find myself pretty comfortable right here in my own pastoral squalor. I wouldn't mind a check for a million dollars, but I won't hold my breath.

"Dèjá Lu" by Henry Clark should become a classic—the P. D. Q. Bach of science fiction; plagiarism with humor is the sincerest form of flattery. Or something.

"End Cruise" by Rand B. Lee managed to leave a bad taste in my mouth. Given *The Six Million Dollar Man* and MTV, bionically enhanced live snuff-orgies could only be a matter of time. (Was it Billy Idol who said "Life is a Kung Fu movie"?) A long, long time, one hopes. I cannot fault the writer for sheer effectiveness though. If Mr.

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Lee ever takes to writing horror, I would be very interested in seeing his results.

"Statues" by Jim Aikin was an admirable piece, especially for the sheer restraint used by the writer. By that I refer to the very muted hints of fantasy that appear in the story; any greater appearance of fantastic possibilities would have tended to minimize the predicament of the protagonist and make her family into just another bunch of dull old mundanes. Instead, Aikin kept the story very real, and very ghastly, until the end.

"Lazuli" by Melissa Malcohn also presented a damned ghastly family situation very effectively. Even more horrific than the molestations depicted was the implication that there would be a sizeable market for convenient victims such as the Lazuli dolls.

In conclusion, I find myself in the position of a film reviewer who can say kind words about a Burt Reynolds car-chase movie. Does the fact that I have only kind words for your November issue indicate a lack of insight or just a lack of pickiness? I leave it to the Good Doctor to render a diagnosis.

Cordially yours,

Tom Kohl
636 W. Washington Ave. #203
Madison, WI 53703

Maybe you just have a lack of bad judgment.

—Isaac Asimov

Dear Dr. Asimov,

I simply must break my long time silence and tell you that the November issue should have been labeled "hazardous to one's mental stability." I really meant to complain that warnings of graphic scenes did not belong in an SF magazine because in a sense science fiction should upset preconceived ideas. I apologize for doubting your editor's judgment here. "Statues" was impressive and a bit shocking.

If you allow your editor to keep finding gems like that one and "Lazuli," I'll send you my psychiatrist's bill. (I don't have one yet, but I'll need one at this rate.) Do you realize that this is the first issue that I was not able to read at one sitting in a very long time? After I read "Lazuli," I felt like I'd been punched in the solar plexus and couldn't bear to read anything else right away. This is extremely unusual for a long time SF addict like me. My reaction to "Lazuli" was much the same as when I read "Enemy Mine" and "The Postman." Want to bet that it wins some awards?

Now, if I could manage to write a tale like that, I might be able to afford my subscription bill. (I'm still working on it.) I do support three of them (to *IAsfm*) now. At the rate I'm enjoying the November issue, the next ish should arrive before I finish the stories. What a nice balance, and plenty of food for thought in this issue. Thank you, thank you, thank you!

Judy Wright
Ann Arbor, MI

Aristotle advanced the theory of literary "catharsis." He felt, apparently, that works which presented pity and fear in a particularly powerful form had the effect on the reader of purging from him those

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evils which, in the tragedy, were produced by flaws and shortcomings of character. He thought, in other words, that that punch in the solar plexus you speak of was good for you.

—Isaac Asimov

Dear Editors,

While I am both a fan and an admirer of your magazine, there was an issue raised (or, more properly, not raised) in your November edition which disturbs me. I suspect that the way you handled it was not accidental, but deliberate. If I am correct, I congratulate you for your subtlety. But, in any case, I think the issue deserves comment.

It seems to me both telling and a little sad that you found it necessary to run a disclaimer ("... warning: this story contains scenes which may be disturbing to some ...") for a story critical of reactionary Christianity ("Statues" by Jim Aikin) but didn't need to say a word about a story which dealt with the systematic torture and sexual abuse of a five-year-old child ("Lazuli" by Elissa Malcohn). If a magazine's policies reflect its readership, what does it say about our priorities when that magazine anticipates that we will be more upset by negative comments about a religion than by a depiction of child abuse? Are our sensibilities *that* screwed up?

Maybe so . . . But if that's true, there really isn't much hope left for us as a species.

Anyway, Mr. Aikin's story doesn't offend me. The fact that some people can be complacent about child abuse and, at the same time, militant about someone slighting a religion offends me a lot.

Sincerely,

G.W. Lucas
Old Lyme, CT

Actually, I wonder if child-abuse isn't an integral part of Western culture. Loving mothers so often hold up "innocent fairy-tales" as proper reading for their kids as opposed to wicked modern literature. Well, read "Snow White" and "Hansel and Gretel" and "Little Red Riding Hood" and "The Little Match Girl" and any of a thousand others, with their tales of child-abandonment, child-devouring, child-freezing, and all the rest.

—Isaac Asimov

Dear Editorial Staff,

By some freak of nature, I received the November and December issues of your magazine within a few days of each other, and both issues were great. I really liked Rand B. Lee's "End Cruise" and Frederik Pohl's "The Kindly Isle."

And, after noticing the controversy in the Letters section over fantasy and science fiction, I would like to present my opinion. At this time, I am sixteen and have been reading SF ever since the sixth grade when I read an Isaac Asimov story in English. From that day on, I've preferred reading SF to anything else, which was the reason I subscribed to this magazine. I have no complaints against reading anything that may be considered fantasy in these pages; it's nice to know that you can still read fantasy someplace, and if people do

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not want to read them, they can just skip over them.

Please keep up the great work and, if it is possible, print a lot more of Mr. Lee's stories.

Sincerely,

Anne Mac Fadyen
Niantic, CT

I'm not so sure I'd be so cavalier as to say "if you don't like it, skip over it." Our readers are paying good money and might feel they're getting short-weight. What I would like to have readers do is cultivate broader tastes and get to like science fiction in its widest embrace.

—Isaac Asimov

Dear Dr. Asimov:

I accuse Dr. Asimov of violating the principle of separation of church and state—the Fourth EsTATE, that is. If a science-fiction magazine can be considered part of the Fourth Estate.

You claim not to believe in the biblical God—and I quote you from page 15 of the Mid-December '84 issue—"To believe in the existence of the indetectable opens the doors to infinite belief—and that's not for me."

Now I refer you to Colossians 3:10–11 . . . "And have put on the new man, that is renewed in knowledge after the image of him that created him; Where there is neither Greek nor Jew, circumcision nor uncircumcision, barbarian, Scythian, bond nor free, but Christ is all, and in all."

I submit that "Pilots of the Twilight" by Edward Bryant in your Mid-December issue has done more to advance the principles taught by Jesus Christ than a thousand stodgy books on theology, written by theologians and read mostly by other theologians, neither of whom really know what they are talking about.

Congratulations . . . and congratulations on an excellent, especially entertaining issue. I have just renewed my subscription to *IAsfm* and look forward to more years of enjoyment.

Sincerely,

Floyd Hilliker
Sparta, MI

Dear me! You don't suppose various churches are going to set up stands where issues of this magazine will be routinely displayed and sold, do you?

—Isaac Asimov

Dear Shawna and Dr. Asimov,

In R. Jameson's letter in the Mid-Dec. '84 issue, s/he requests more "hard" SF in *IAsfm*. Noting that the capable Shawna's powers are limited in this matter by the number of "hard" SF manuscripts received, R. Jameson asks that contributors write more "hard" SF.

As someone who has sent "hard" SF manuscripts to this magazine, I am doubtful that the problem lies in there being a shortage of "hard" SF manuscripts assaulting the offices of *IAsfm*. Rather, I suspect, it is simply more difficult to get "hard" SF stories published. (Any clever person who thinks that *I* may solely be experiencing this phenomenon due to some lack in my stories may have the dubious pleasure of possibly being right. However, I have a quick answer that saves my self-esteem:)

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It is harder to write *good* "hard" SF than that other kind of SF.

This is because stylistically "hard" SF is the same as the SF written during the first Golden Age (more or less, the forties). So, unless current "hard" SF writers can do it better than it was done in the first Golden Age (and I, for one, have no interest in trying to beat Asimov, Clarke, and Heinlein at their own game), they *must* take advantage of knowledge that was not available in the forties.

In other words, to write *good* "hard" SF today, we must write about neutron stars, quasars, cloning, and other ideas that have arrived *after* the first Golden Age. In general, we must make stories in which people skating down the frozen canals of Mars look hopelessly outdated, otherwise people might as well go to the library and read stories from the forties, rather than buy this fine publication.

Believe me, this is not easy, and that is likely why you do not find much "hard" SF in *IAsfm*.

Yours,

Colin R. Leslie
Victoria, BC
Canada

I'm not sure that this is the correct explanation, or at least the entire one. We also have to realize that fashions change, that the science fiction magazine readership has changed, that newspapers and the world have become more "science-fictiony" so that old-fashioned science fiction is no longer the escape it used to be. It's a very complicated thing, but the fact remains that those who could write hard science fiction at a high level even as long ago as the 1940s can still do so today and with just as much success. (I avoid giving you the obvious example.) So if any of you want to write hard science fiction today, do so!

—Isaac Asimov

Dear Dr. Asimov,

". . . The youngsters will keep up with us, and by the time the streets have finished educating them, there's nothing much we can tell them about sex and violence." —Isaac Asimov, *IAsfm*, Nov. '84.

I disagree. Yes, some youngsters will keep up, but some won't. That is the way of the world. What I really want to refute, though, is the second part of the quote. What we can tell them about sex and violence is a great deal. That sex can be good as well as empty, and vice versa, that there is life without sex, and whatever else we know to be true in particular situations but is not guaranteed to be part of the Street School curriculum. About violence, that it isn't always just for fun or for politics, that it isn't always possible to repair the situation. That it doesn't always happen to other people, or bad people, or even violent people.

Stories in your magazine cover racism—"Enemy Mine" (one of the few stories, incidentally, that makes me cry every time I read it); child abuse—"Lazuli"; sanctioned psychological abuse—"Statues"; and a number of other topics which I would prefer not to discuss with a nine-year-old. But, eventually, children must deal with these things. One hopes that reading *IAsfm* prepares the child at least

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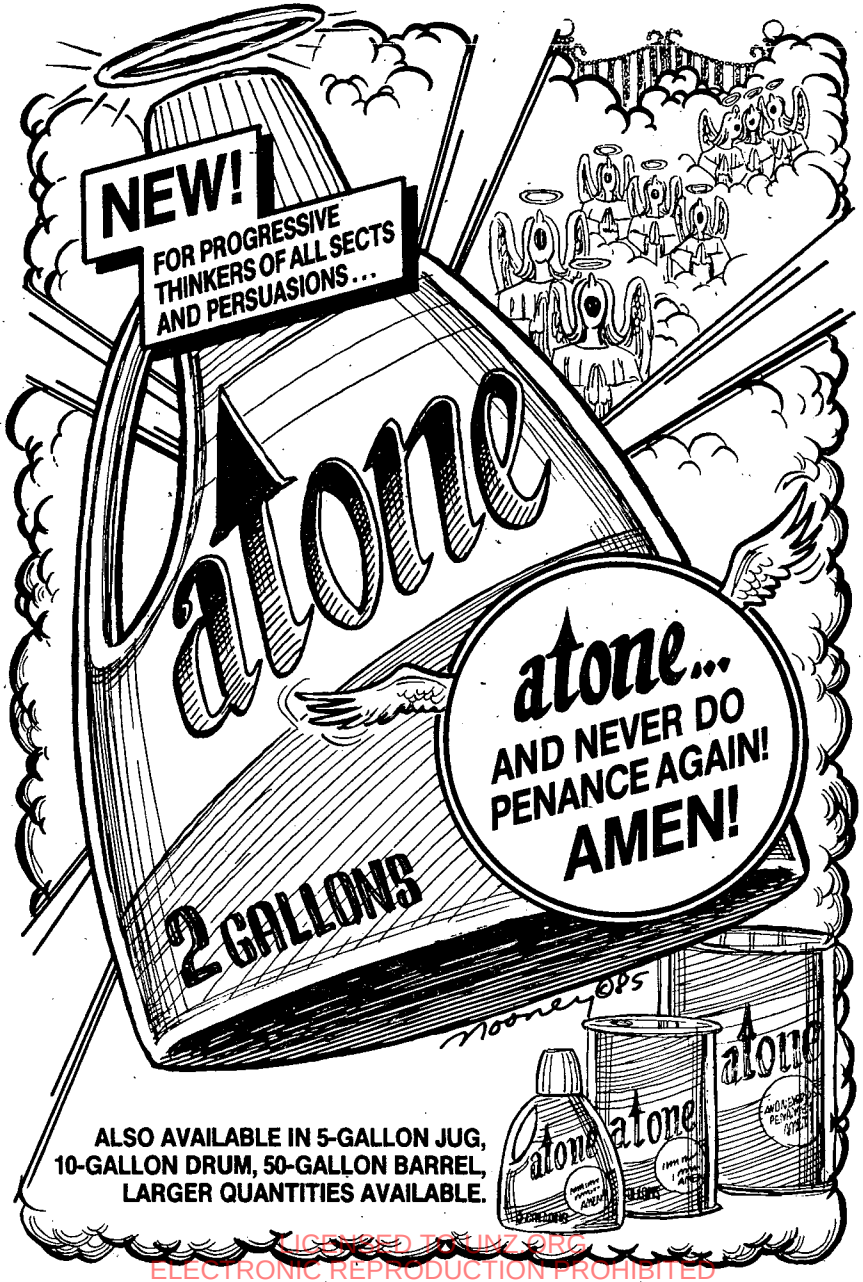

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in part to handle the subjects. Sex and violence, for all that they are viewed and discussed more often than the above-mentioned topics, are as important a part of a child's preparation for adult life as anything else. Children learn from what they pick up themselves more often than from what is pressed upon them. Hide an *IAsfm* and the material within will take on all the importance in the child's eyes of the heated whisperings of his playmates.

But you knew that. So, anyhow, let Shawna keep doing her job and *never* forget that children, generally, become adults.

Clear skies,

Morgan B. Blackwolfe
Medford, MA

Of course, it is also important to remember that this magazine is aimed primarily at non-children. If we carefully selected (or censored) our stories in order to make them fit for carefully-brought-up nine-year-olds, what a howl would go up from everyone aged 13 and up and how quickly we would lose our readers!

—Isaac Asimov

Dear Dr. Asimov and Shawna:

In the last three years I have been thrilled, gladdened, angered and provoked by your magazine. I would say that's pretty good for any magazine that manages to be so varied.

I get angry with some of your gentle(?) readers who can't seem to allow themselves any fun with your variety.

I am a homemaker, wife of a career navy man, and a mother. Wherever we go, my *Asimov's* goes too. Shawna's choices may not please everybody all the time, me included, but she always surprises me.

I have been reading your works, Good Doctor, since I was a teenager; in fact, one of yours was my first introduction to a fascinating world.

I may not always have time to read an entire novel; at a particular duty station, science fiction and fantasy may be hard to find, if not impossible, but *Asimov's* satisfies my thirst for stimulation and just sheer entertainment.

My advice to readers who grumble is if you don't like it, go on to the next!!

Thank you for so many enjoyable hours of reading pleasure.

Sincerely

Mrs. Carl McLelland
4745 Spruce St.
N. Charleston, SC 29418

Keep up the good work!

One is more easily motivated to write a letter of complaint than one of praise, so we are all quite certain that the percentage of unfavorable letters is probably a lot higher than the percentage of displeased readers. Nevertheless, it is inspiring to have this theoretical certainty backed by letters such as this one, and we print it just to show you they exist.

—Isaac Asimov

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GAMING

by Dana Lombardy

Have you ever wanted to explore a haunted house, or search for legendary monsters— Or maybe your sense of adventure leads you to damp, narrow corridors in ancient tombs, or on a chase through the foggy streets of London in pursuit of Dracula. If this type of science fantasy appeals to you, you'll enjoy *Chill*, a role-playing game by Pacesetter Ltd. ($12.00 at your local store or direct from P.O. Box 451, Delavan, WI 53115).

In *Chill*, you assume the role of a character investigating the supernatural. A character has eight basic attributes used during play: Strength (the character's physical power); Dexterity (nimbleness and coordination of the hands); Agility (coordination of the entire body); Willpower (the ability to resist fear, pain, persuasion, and special forms of attack, such as mind probes); Personality (the general impression a character makes on others both humans and creatures); Perception (the ability to observe things which are different or unusual about his surroundings, to draw quick conclusions from small details, to understand a general situation quickly, and to respond to that situation); Luck (the percentage chance that your pocket watch will stop a bullet); and Stamina (the ability to sustain damage and endure strenuous activity over a period of time).

These attributes are expressed as number values, obtained by dice rolls. For example, a character with a high value for Agility will probably be able to jump over a snake-filled pit if it isn't too wide. Or, a character with a high Personality value will probably be able to persuade a tribal chief to reveal the directions to a lost city in the jungle. Since you role-play with a team of other characters, there's usually a balance within the group; someone is very strong, while another player's character might be very perceptive of details, such as noticing the odd line in a wall that reveals the location of a hidden door.

As you proceed through an adventure, the referee presents your group with problems or situations that require decisions and/or actions of the characters. It's at these times during play when you roll the dice and compare the result to your character's attribute value to see if he succeeded or failed in whatever was attempted. Although physical action is often called for, *thinking* is more important if you and your team mates are to survive the adventure.

In addition to these attributes, a character can have certain Skills, such as hypnosis, foreign language, marksmanship, etc. For ex-

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ample, the chances of succeeding in hypnotizing someone is determined by adding the basic skill scores for Perception and Personality (hypnosis requires some understanding of other people and the ability to make them relax) divided by two. A character may start with two to five skills, based on rolling a 10-sided die.

Chill is designed to enable people who've never participated in a role-playing game to play or even to referee very quickly. The introductory adventure, "Terror in Warwick House," tells the referee exactly what to do and what to tell the players as they explore each room of a haunted mansion. This mini-adventure succeeds admirably in teaching the mechanics of role-playing to both the referee and to the players. By using the characters provided in the game with their attributes already determined, you can actually be playing the adventure after only ten minutes of preliminary explanation (even less with experienced role-gamers).

Only one chart is required to determine the results of Armed or Unarmed Combat and Fear Checks. For example, if a skeleton suddenly steps out of a closet and moves towards the characters, each player rolls two dice for their character's reaction (called a Fear Check). The dice roll results can cause a character to flee from the room screaming, or confirm a player's desire to stand his ground and fight the skeletal horror. If a fight occurs, another dice roll is resolved using the same chart. The results can be a miss, a knockdown, a critical wound, or even death. A color-coded system with abbreviations make this chart a model of simplicity and efficiency.

Because the game rules or mechanics are so simple, play generally flows smoothly. As a referee gains experience, he can embellish an adventure with a wonderfully frightening tone or backdrop, such as creaking floorboards, clinging cobwebs, and musty odors from forgotten crypts.

As a test of how well this system works, I invited two people who had never participated in role-playing before to join with one experienced gamer to explore Warwick House. The referee was also an experienced player, but had only skimmed the rules. *Chill's* format and simple rules enabled both of the beginners to grasp the concepts of role-playing quickly without the confusion common to first attempts in some games. The referee had only one problem when the players decided to go into a room that was not the next one listed on that page of the adventure, but otherwise the game was a complete success for everyone involved.

Pacesetter plans to release a new adventure module or creature supplement for *Chill* nearly every month, so the game should stay fresh and exciting. A referee's screen with all the necessary charts and tables is available, and it includes a short "Castle Dracula" module.

Chill is one of the best games in recent years that can be used to introduce newcomers to role-playing, yet still provide a real challenge for experienced gamers. If you enjoy reading fiction about the supernatural, you'll enjoy playing *Chill*. ●

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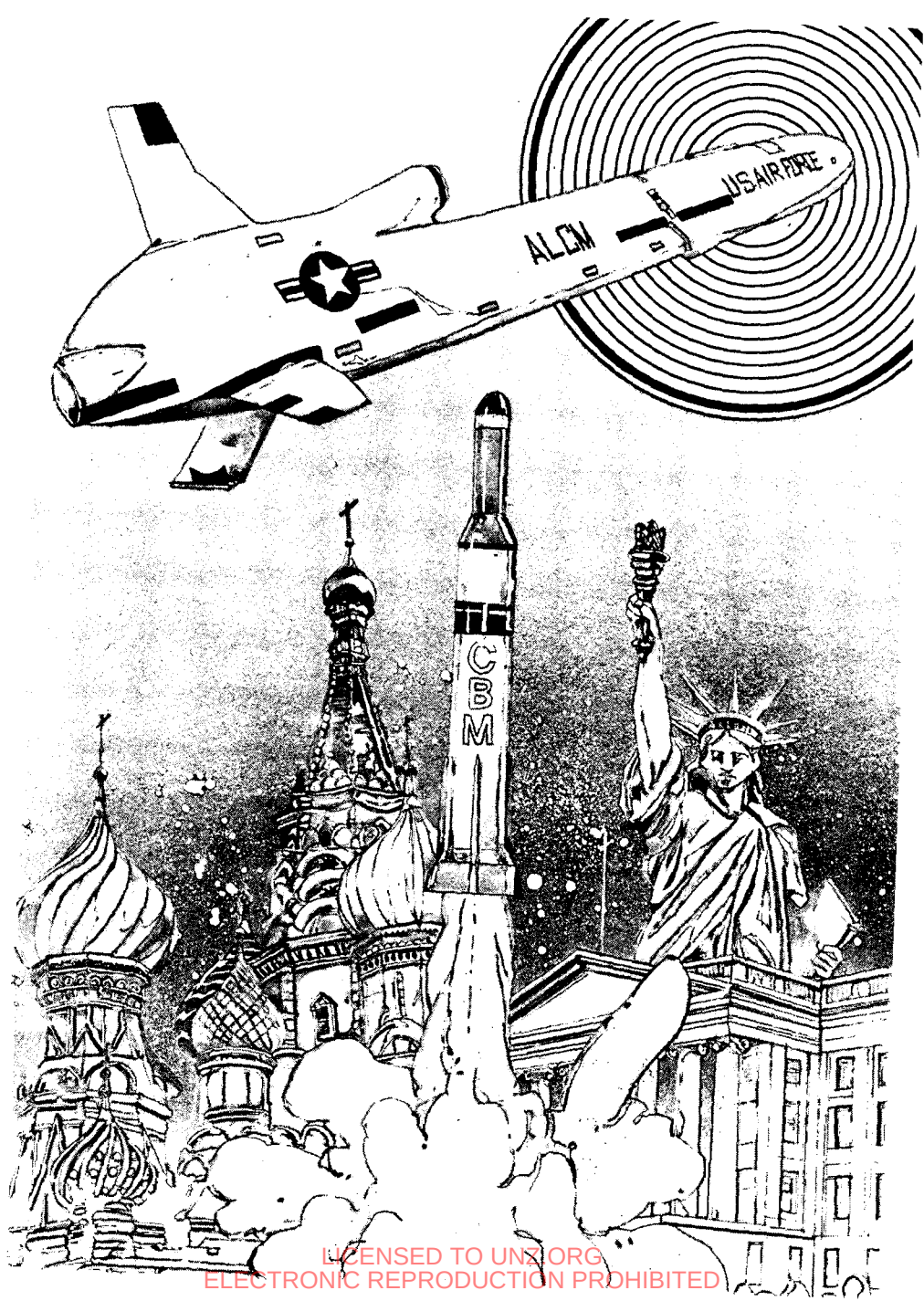

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VIEWPOINT

STAR PEACE?

art: Arthur George

by Poul Anderson

In our Mid-December 1984 issue we presented a controversial Viewpoint, "Don't Worry, It's Only Science Fiction," by H. Bruce Franklin. In his article, Dr. Franklin pointed out several of the major problems which could arise should the United States turn to a "Star Wars" defense program. In the following Viewpoint, the highly esteemed Poul Anderson responds to Dr. Franklin's arguments with an equally controversial look at some of the advantages this program might have.

With all my heart, I wish I could say that no sane human being contemplates the prospect of a major nuclear war with anything but horror, and probably very few madmen do. As we shall see, this is not the case—which ought to have been obvious from the start, considering how the great powers have been working to build up their nuclear arsenals ever since Hiroshima. Certainly, though, the thought is ghastly, so much so that few people choose to live

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VIEWPOINT

"It is pointless to protest against a future militarization of space, because this has already happened; approximately 90 percent of the Soviet space program serves military research and development."

with it. The majority dismiss it from their minds. Most of the rest, including nearly all who call themselves intellectuals, substitute slogans for study, and let it go at that. Thus they are easily manipulated by those who commissioned the slogans in the first place.

Now this is not the forum to argue whether or not any nation could win such a war in any meaningful sense, or prevail, or survive. Let me just point out that belief in victory is official military doctrine in the Soviet Union, and shared by various highly placed individuals elsewhere. Of course this has caused an arms race; but mortal rivalry is what began that race, keeps it going, and makes it mortally dangerous. (After all, Britain and France do not fear attack from each other, though they have their frequent disagreements and both are nuclear powers.) Disarmament is not going to happen until mutual trust has become so great that the existence or nonexistence of weapons makes little difference.

A number of scientists have tried to investigate the consequences of nuclear war.

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Some of them have come up with appalling answers. The "nuclear winter" scenario is only the latest. Closer analysis may or may not prove it correct; like all its kind, it necessarily makes assumptions that are not necessarily right. For whatever it may be worth, my own opinion is that such a war would, at best, be an unprecedented global disaster with completely unforeseeable results. Every well-informed person whose ideas are known to me, including military men, will agree to that much. Nobody, in the US or the USSR or anywhere, wants the war. Yet inexorably, like sleepwalkers bound for a precipice, we move toward it.

The question is how we can regain some control over our fate, how we can reduce the likelihood of the blowup. America cannot determine by herself what is going to happen; but surely, without wise American policies, there is scant chance of a good outcome. Therefore we need a public that understands the facts. The entire subject is infinitely complex. However, certain technological issues are crucial to it, and their basics can be set forth in a straightforward way.

I regret to say that H. Bruce Franklin did not succeed in doing this, in his article "Don't Worry, It's Only Science Fiction" (*Asimov's*, Mid-December 1984). As a concerned citizen who has tried for many years to keep abreast of developments in this field, I felt obliged to protest against what seems to me an inaccurate and misleading piece. When *Asimov's* courteously offered space for a reply, I asked several better qualified persons if they would undertake the job, but all were too busy. My aim here is nothing more than to cause you, the reader, to look into the facts for yourself and do your own thinking—whatever conclusions you may reach. You owe this to yourself, to everybody you love, to the human race and the planet.

Ideally, the first thing you should do is go back and re-read Franklin. In essence, he argues against current proposals to build defenses against nuclear missiles. These will necessarily be highly automated, and he cites many cases of false alarms due to computer failure, which, on at least one occasion, caused the Strategic Air Command to go on full alert. Such cases would be

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VIEWPOINT

more frightening if human judgment had not been built into the system, to determine that no attack was under way. Nevertheless, when missile transit times are measured in minutes, human (snap) judgment cannot be relied on either. Franklin correctly points out how unstable the balance is, how easily events can get out of hand.

This nightmare situation springs from two roots. The first is technology. Unlike a bomber, a missile, once launched, cannot be recalled. Moreover, most of the large missiles now have "MIRVed" warheads. That is, at some point in their trajectories, they will release a number of independently targeted units, each capable of taking out an enemy missile silo or a city. Hence the temptation to strike first becomes tremendous. If you can cripple the hostile rocket force before it gets off the ground, your opponent's population becomes hostage to your second strike. To be sure, you'd better also do something about his missile-carrying submarines, unless you think you can absorb their blows without losing too many millions of people. . . .

Given this, any national leader who gets the word that an assault may have begun has only minutes to decide whether to launch, though the target country may be innocent, or to hold fire and risk being rendered helpless.

The second, still more critical factor is human: how nations behave. Under President Lyndon Johnson and his Secretary of Defense Robert McNamara, the United States determined on a policy known as Mutual Assured Destruction. The idea was that if we and the Soviets both knew that to fire would be to bring annihilation on ourselves, we would both refrain. To that end, we negotiated the Anti-Ballistic Missile (ABM) Treaty, a pledge that neither country would erect defenses against missiles at more than one point. The Soviets now have an ABM for the Moscow area; whether it would be of any use or not is problematical. We have none. Even before this, we gave up on constructing a fallout shelter beneath every overpass in the Interstate Highway System, though that had been one of the original reasons for undertaking the project. Protecting our citizens was supposed to be

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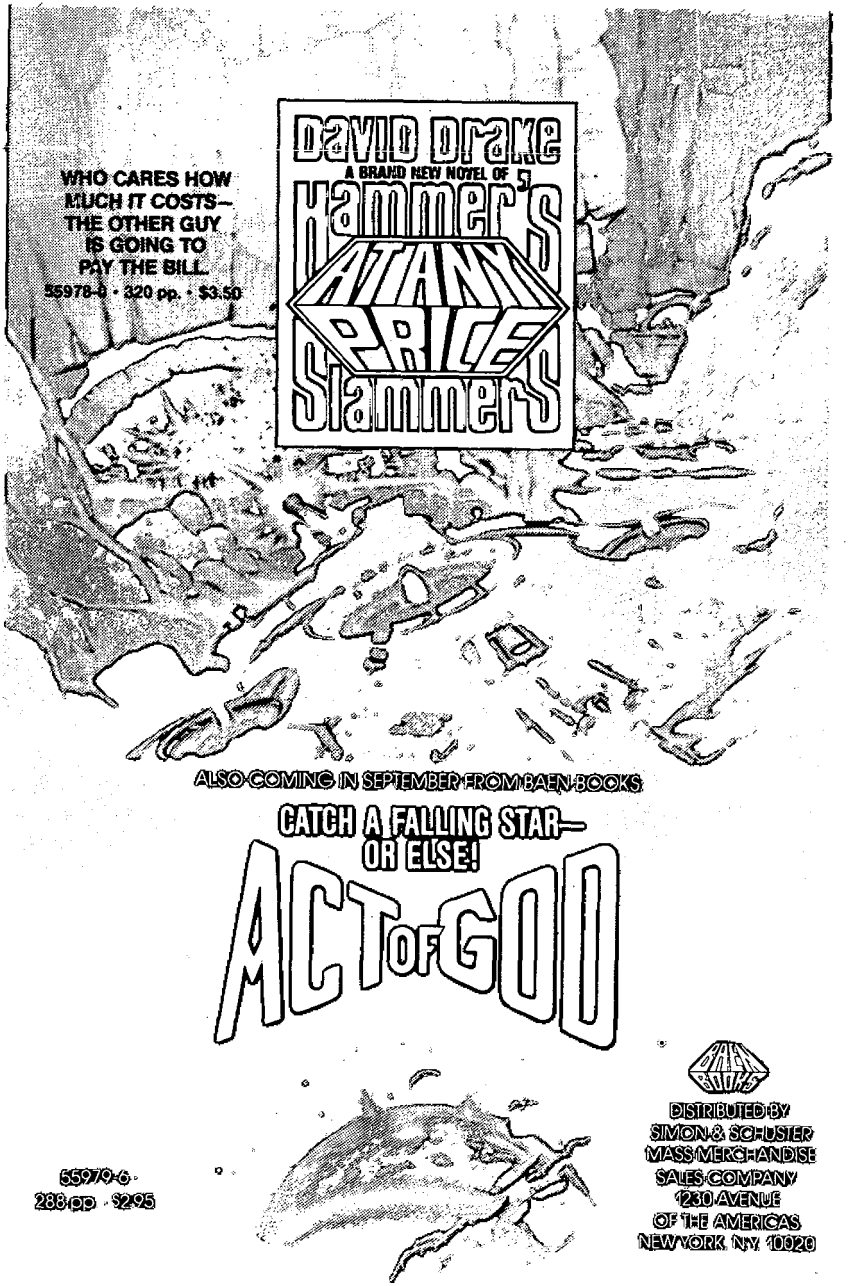
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"provocative." That reasoning strikes me as very strange, especially when the Soviets have a strong civil defense program, currently costing them over $2 billion a year.

There is also ample evidence that they have continued work on ABM technology, as well as placing large radars in Siberia in violation of the treaty, developing means of destroying the satellites on which we depend for military communications and navigation, and otherwise preparing for a sudden breakthrough into superiority in this area. It is pointless to protest against future militarization of space, because this has already happened; approximately 90 percent of the Soviet space program serves military research and development. Through the period of "détente" the Soviets continued to expand their arsenal—from 1400 warheads in 1972 to 5578 in 1982, and onward, until today it vastly exceeds the American. Some 240 SS-20 missiles are presently targeted on western Europe; it was this deployment which caused the Americans to start placing their Pershings there.

But we need not apportion blame here, except of our own folly. The acronym MAD, for Mutual Assured Destruction, is probably the most apt in history. As said, the Soviets have never believed in it. MAD has brought the United States to the point where we must saddle ourselves with a monstrous defense budget, trying to catch up after years of neglect; where the very danger adds to the instability, on both sides; where the scenarios in which war comes about although neither side intends it become ever more plausible. A misinterpretation, an accidental launch, a launch ordered by a mad general, a trick played by some third party that hopes to see the superpowers destroy each other, an assumption that victory is possible if action be quick—whatever eventually upsets the balance of terror, something inevitably will.

As General Daniel O. Graham, a leader of the movement for defense and prominent spokesman for it, has said: We owe a better heritage than this to our children and grandchildren.

In light of all the above, . . . it is odd that the liberal

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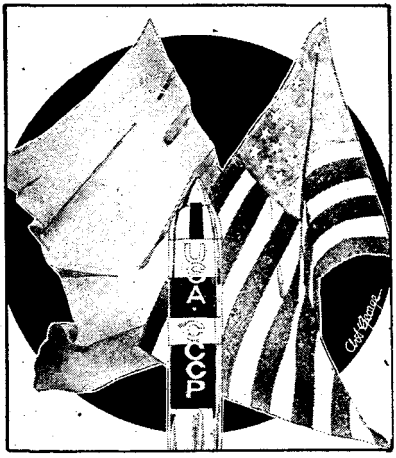
establishment finds the defense proposal outrageous. The media were prompt to dub it "Star Wars," i.e., to label it a fantasy. Interestingly enough, the Soviets do not seem to agree. One would think they would be delighted to see us bankrupt ourselves buying a system that cannot possibly work. Yet apparently President Reagan's initiative was what brought them back to the arms reduction talks which they had left because of the Pershing issue; and the first item that they want on the new agenda is a ban on any defensive systems. (Incidentally, these would not violate the ABM Treaty, because it gives either party the right to resign its obligations under it on six months' notice.)

The question now is whether a defense against nuclear missiles is attainable—and if it is, whether the effort to get one is desirable.

Formerly the problem did look insoluble. Intercepting a missile was often compared to trying to hit a bullet with a bullet. Decoys, radar chaff, and the like could easily complicate matters still further for the defense. Nuclear weapons might conceivably



"... it is odd that the liberal establishment finds the defense proposal outrageous. The media were prompt to dub it "Star Wars," i.e., to label it a fantasy. Interestingly enough, the Soviets do not seem to agree. One would think they would be delighted to see us bankrupt ourselves buying a system that cannot possibly work."

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VIEWPOINT

nullify many incoming missiles, but would do almost as much harm themselves to their home country.

A typical intercontinental ballistic missile (ICBM) takes about thirty minutes from launch to impact. The target country could only count on about half this time for warning, since at first the object would be under the radar horizon. A submarine-launched ballistic missile (SLBM) could arrive on still shorter notice; depending on location, the travel time is on the order of ten minutes.

Earth satellites began to change this, initially by providing maximum warning time. A large rocket at liftoff fairly roars its presence to an infrared detector. After burnout, when the booster has been dropped, the missile itself is cold, much harder to track; but the job can be done, given cryogenic instruments, especially in that part of the trajectory which is above atmosphere. Clouds complicate the task, and of course the missile can be programmed to stay at lower altitudes; but then air resistance forces it to carry much less lethal cargo and to move significantly more slowly. Even in this case, although difficult, tracking is possible with a combination of space and surface systems.

Given that, killing the thing also becomes possible. With present-day microelectronics, we can build a small, superfast missile "smart" and maneuverable enough to hound down a big one on its course. Other possibilities—which no longer look unrealistic—include high-energy laser beams, traveling at the speed of light, and particle beams traveling at considerable fractions of that speed. For ground-based defense, alerted by satellite, we can have such devices, together with guns firing hundreds or thousands of rounds per second through a large volume of sky.

The key fact in all this is that an ICBM or SLBM is itself extremely fragile. Its skin must be thin, or it is too heavy to be useful—so thin that a rifle bullet will penetrate; and puncture during the boost phase will totally disrupt the whole proud beast. It is almost as vulnerable during the unpowered phase of flight. Once it has released its

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VIEWPOINT

MIRVs, they pose a nastier problem, but not an insoluble one. Their weakness lies in the electronics which touch off the nuclear detonations. These can be scrambled in a variety of ways, ranging from simple slugs such as I mentioned to jolts of high-energy particles or quanta. Protective schemes, such as shininess or rotation to dilute the effects of beams, do not really appear to be practical.

Please note, none of these defenses require nuclear explosions on Earth or in its atmosphere. (Some plans do involve nuclear-driven lasers in space, but these would not harm the biosphere and are in any event rather far down the line of development.) Indeed, the original "High Frontier" idea was for aerodynamically shaped bodies of solid iron to be launched from space to intercept missiles. (This could also lead to a weapon that would make the tank obsolete, which might help reduce tensions in such areas as Europe.) The whole intention is to *prevent* nuclear bursts.

Is all this too good to be true? A report issued by the Union of Concerned Scientists contained calculations purporting to show that any anti-missile effort is foredoomed by the laws of physics. Physicist Robert Jastrow had little trouble in proving that these results were off by a factor of 1600. Let me try, without mathematics, to sketch what the technical arguments are against the concept, and the replies to them.

The first is the vulnerability of space-borne detectors and launch platforms. Theoretically, a bucket of nails sent straight up to the orbit of one would suffice to disable it. In practice, spacecraft already encounter comparable hazards, in the form of debris from earlier launches, and survive them. Hardening would certainly be needed for military purposes, but is quite feasible. True, there is no way to make a satellite absolutely impregnable. But a large number would be needed; an enemy planning an attack would have to dispose of them first; this would be an unmistakable signal of his intentions; therefore, he would be unlikely to do it.

That large number raises the specter of backbreaking cost. It is only a specter. The bill for an

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initial, comparatively primitive system is estimated at something like $75 billion over the period of ten years or so that its creation would take. (The cost of the offensive systems we now have has been almost three times that.) Granted, we shall have to continue improving and enlarging; we can never hope for safety behind a once-for-all Maginot Line. Still, even allowing for cost overruns such as have become notorious, the trillion-dollar price tag often hung on the Strategic Defense Initiative (SDI) is simply false. And what is it worth us to prevent the loss of a single city, let alone our whole country and possibly civilization itself?

Yet another objection is that SDI will only provoke antagonists into constructing enough additional weapons to saturate the defense. "Suppose we intercept 90% of the attack; the 10% that gets through is enough to destroy us. Therefore, why bother?" This argument presupposes an enemy who is insane. Even as things are, there is no predicting which missiles will complete their missions; the unreliability factor is high. Given an effective defense, there is no way whatsoever to estimate the results of an onslaught, except that a shattering retaliatory force is bound to survive. None of the analysts whom I have talked with or whose works I have read, regardless of their views on Communism, believe the Soviet rulers are insane.

Remember, SDI is defensive, not offensive like all the instrumentalities associated with MAD. The weapons of SDI will not kill people, they will only kill other weapons. In his speech of March 23, 1983, which put the proposal before Congress, President Reagan actually suggested that we could share the technology with the Soviets, or with the whole world, so that everybody can be secure. He repeated the idea in his press conference of February 11, 1985.

Of course, the security can never be absolute. Nothing ever is. In the beginning, SDI won't really be able to protect more than our own ICBM sites—which is sure to raise cries that "They don't care about people, just about their weapons!" although this will simply be an effort to preserve the balance until a

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VIEWPOINT

comprehensive shield is in existence. In the end—but no end is in sight, before the lion lies down with the lamb. We can, however, recognize that an offensive arms race, such as we have today, is inherently destabilizing, therefore ever more dangerous; while a defensive arms race is inherently stabilizing. The less vulnerable a nation is, the more incentive it has to seek agreements with others.

Intercepting SLBMs is still more difficult than with ICBMs; but not impossible either. In any event, it seems unlikely that submarines alone could carry out a successful first strike; therefore it is unlikely that submarines alone would ever be used. Similar arguments apply to aircraft, cruise missiles, and the "suitcase bombs" that have figured in some science fiction stories. Moreover, as SDI makes missiles obsolete, less weapons-grade fissionable material should be produced than hitherto; thus less should be available for terrorists to steal.

Franklin maintains that, since an SDI system must be highly computerized and computers do make mistakes, we will be delivering humanity's fate to machines which aren't infallible either. In response, let me point out again that a properly designed SDI system can *only* strike at missiles. Those could, conceivably, as well be American as Soviet, Chinese, Libyan, or whatever; if nothing else, the accident or the mad general could occur anywhere. Naturally, the program will allow for peaceful launches, which can be announced beforehand. At worst, then, once in a great while, an innocent spacecraft may be destroyed. This does not seem too high a premium to pay for insurance against accidental nuclear war. Meanwhile, we may well have ended any possibility of intentional nuclear war. Certainly we will have reduced the likelihood of it by an enormous factor.

The costs and risks of trying for that are great; but the cost of drifting along as we have been doing is probably infinite. Let us, all humankind, get about the business of assuring our grandchildren a life. We Americans cannot tell the rest of the world what to do, but we can take the initiative toward sanity. ●

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Suggested reading

Ben Bova, *Assured Survival* (Houghton Mifflin, 1984).

Freeman Dyson, *Weapons and Hope* (Harper & Row, 1984).

Gen. Daniel O. Graham, *High Frontier* (Tor, 1983).

Robert Jastrow, "The War Against 'Star Wars,'" *Commentary*, December 1984.

Lewis E. Lehrman, "The Case for Strategic Defense," *Policy Review*, Winter 1985.

J. E. Pournelle, editor, *Space and Assured Survival*, Report of the Summer 1983 meeting of the Citizens Advisory Council on National Space Policy (L-5 Society, 1983).

J. E. Pournelle and Dean Ing, *Mutual Assured Survival* (Baen, 1985).

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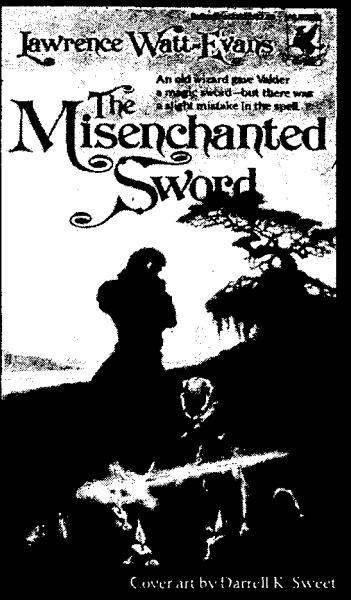
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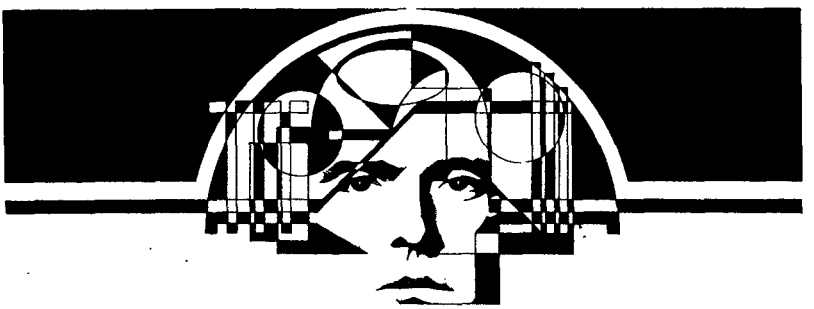
MARTIN GARDNER

SEX AMONG THE POLYOMANS



You may recall that in January 1984 I reported a revolutionary discovery by Japan's top geneticist Dr. Mitsu Matsu. Using new techniques of genetic engineering Dr. Matsu was able to construct microorganisms that are virtually two-dimensional and are capable of living and breeding in monolayer liquid films that are only one molecule thick. They inhabit that curious borderland between nonliving crystals and organic life forms. I discussed a large genus of Dr. Matsu's microorganisms that he calls rep-tiles because they reproduce by splitting into four smaller copies of themselves.

Since that report, Dr. Matsu has continued his sensational research. Early this year he succeeded in fabricating monolayer organisms in the shapes of flat polyominoes, a type of polygon that was this column's topic two months ago. A polyomino is easily defined. It is a polygon produced by fitting identical unit squares together at their edges.

Dr. Matsu's polyomans, as he calls them, "conjugate" by joining to form a larger polyomino. As might be expected, only polyomans of the same size and shape are able to conjugate. (The mirror image of a polyomino is not considered different.) After the genetic information has been exchanged, the two replicas split apart. Each grows by adding new unit cells until it becomes twice as large, then it splits in half like an amoeba.

Figure 1 shows 13 different ways that bent trominoes (one of the two possible species of 3-cell animal) can conjugate in pairs to form 13 dif-

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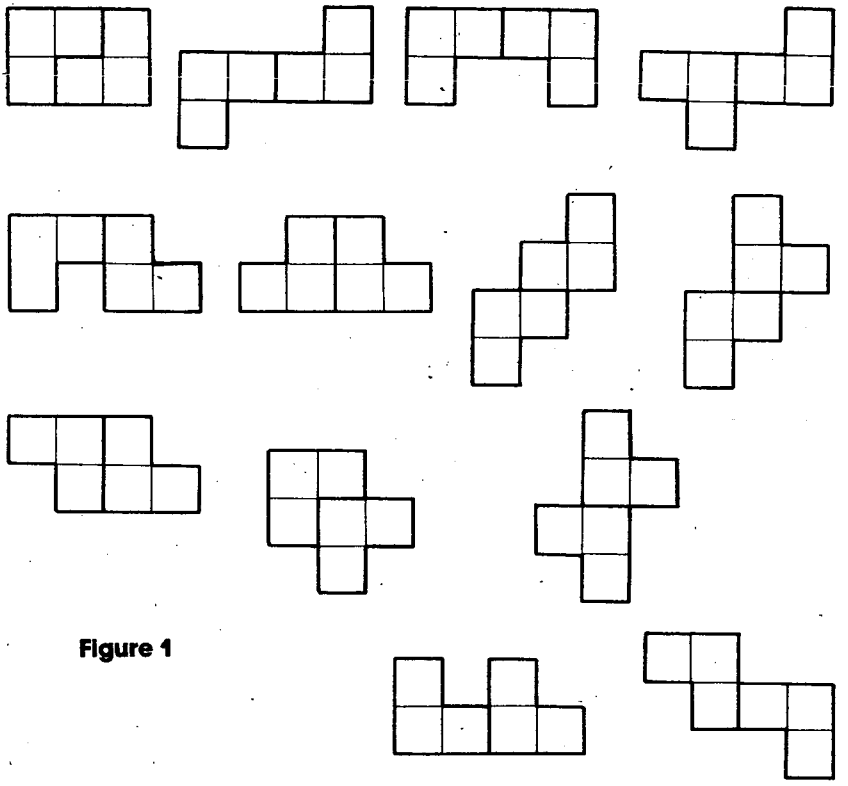

Figure 1

ferent hexominoes, or 6-cell forms. Actually, there is a 14th way, not shown, that a pair can conjugate. How quickly can you determine the missing shape? Put another way, draw a hexomino that is not a rotation or a mirror reflection of any of the 13 shown, and which can be divided into two bent trominoes.

If you have trouble finding the missing shape, the answer is on page 86.

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by Michael Bishop

A GIFT FROM THE GRAYLANDERS

art: Janet Aulisio

Mr. Bishop's most recent fiction publication in *IAsfm*,- "The Gospel According to Gamiel Crucis" (November 1983), was a finalist for the 1983 Nebula award. His most recent novels include *Who Made Stevie Crye?* (Arkham House, 1984) and *Ancient of Days* (Arbor House, 1985).

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In the house where Mommy took him several months after she and Daddy stopped living together, Cory had a cot downstairs. The house belonged to Mommy's sister and her sister's husband Martin, a pair of unhappy people who already had four kids of their own. Aunt Clara's kids had real bedrooms upstairs, but Mommy told Cory that he was lucky to have a place to sleep at all and that anyway a basement was certainly a lot better than a hot-air grate on a Denver street or a dirty stable like the one that the Baby Jesus had been born in.

Cory hated the way the basement looked and smelled. It had walls like the concrete slabs on the graves in cemeteries. Looking at them, you could almost see those kinds of slabs turned on their ends and pushed up against one another to make this small square prison underground. The slabs oozed wetness. You could make a handprint on the walls just by holding your palm to the concrete. When you took your hand away, it smelled gray. Cory knew that dead people smelled gray too, especially when they had been dead a long time—like the people who were only bones, and whom he had seen grinning out of magazine photographs without any lips or eyeballs or hair. Cory sometimes lay down on his cot wondering if maybe an army of those gray-smelling skeletons clustered on the other side of the basement walls, working with oddly silent picks and shovels to break through the concrete and carry him away to the GrayLands where their deadness made them live.

Maybe, though, the gray-smelling creatures beyond the basement walls were not really skeletons. Maybe they were Clay People. On his cousins' black-and-white TV set, Cory had seen an old movie serial about a strange planet. Some of the planet's people lived underground, and they could step into or out of the walls of rock that tied together a maze of tunnels beneath the planet's surface. They moved through dirt and rock the way that a little boy like Cory could move through water in summer or loose snow in winter. The brave, blond hero of the serial called these creatures the Clay People, a name that fit them almost perfectly, because they looked like monsters slapped together out of wet mud and then put out into the sun to dry. Every time they came limping into view with that tinny movie-serial music rum-tum-tumping away in the background, they gave Cory a bad case of the shivers.

Later, lying on his cot, he would think about them trying to come through the oozy walls to take him away from Clara's house the way that Daddy had tried to kidnap him from that motel in Ratón, New Mexico. For a long time that day, Daddy had hidden in the room with the vending machines. Going in there for a Coke, Cory had at first thought that Daddy was a monster. His screams had brought Mommy running and also the motel manager and a security guard; and the "kidnap plot"—as Mommy had called it later—had ended in an embarrassing

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way for Daddy, Daddy hightailing it out of Ratón in his beat-up Impala like a drug dealer making a getaway in a TV cop show. But what if the Clay People were better kidnappers than Daddy? What if they came through the walls and grabbed him before he could awake and scream for help? They would surely take him back through the clammy grayness to a place where dirt would fill his mouth and stop his ears and press against his eyeballs, and he would be as good as dead with them for ever and ever.

So Cory hated the basement. Because his cousins disliked the windowless damp of the place as much as he did, they seldom came downstairs to bother him. Although that was okay when he wanted to be by himself, he never really wanted to be by himself *in the basement*. Smelling its mustiness, touching its greasy walls, feeling like a bad guy in solitary, Cory could not help but imagine unnameable danger and deadness surrounding him. Skeletons. Clay People. Monsters from the earthen dark. It was okay to be alone on a mountain trail or even in a classroom at school, but to be alone in this basement was to be punished for not having a daddy who came home every evening the way that daddies were supposed to. Daddy himself, who had once tried to kidnap Cory, would have never made him spend his nights in this kind of prison. Or, if for some reason Daddy could not have prevented the arrangement, he would have stayed downstairs with Cory to protect him from the creatures burrowing toward him from the GrayLands.

"Cory, there's *nothing* down here to be afraid of," Mommy said. "And you don't want your mother to share your bedroom with you, do you? A big seven-year-old like you?"

"No," he admitted. "I want my daddy."

"Your daddy can't protect you. He can't or won't provide for you. That's why we had to leave him. He only tried to grab you back, Cory, to hurt me. Don't you understand?"

Daddy hurt Mommy? Cory shook his head.

"I'm sorry it's a basement," Mommy said. "I'm sorry it's not a chalet with a big picture window overlooking a mountain pass, but things just haven't been going that way for us lately."

Cory rolled over on his cot so that the tip of his nose brushed the slablike wall.

"Tell me what you're afraid of," Mommy said. "If you tell me, maybe we can handle it together—whatever it is."

After some more coaxing, but without turning back to face her, Cory began to talk about the skeletons and the Clay People from the GrayLands beyond the sweating concrete.

"The GrayLands?" Mommy said. "There aren't any GrayLands, Cory. There may be skeletons, but they don't get up and walk. They certainly

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don't use picks and shovels to dig their way into basements. And the Clay People, well, they're just television monsters, make-believe, nothing at all for a big boy like you to worry about in real life."

"I want to sleep on the couch upstairs."

"You can't, Cory. You've got your own bathroom down here, and when you wake up and have to use it, well, you don't disturb Uncle Martin or Aunt Clara or any of the kids. We've been through all this before, haven't we? You know how important it is that Marty get his sleep. He has to get up at four in order to make his shift at the fire station."

"I won't use the bathroom upstairs. I won't even drink nothin' before I go to bed."

"Cory, hush."

The boy rolled over and pulled himself up onto his elbows so that he could look right into Mommy's eyes. "I'm scared of the GrayLands. I'm scared of the gray-smellin' monsters that're gonna come pushin' through the walls from over there."

Playfully, Mommy mussed his hair. "You're impossible, you know that? Really impossible."

It was as if she could not wholeheartedly believe in his fear. In fact, she seemed to think that he had mentioned the GrayLands and the monsters who would come forth from them only as a boy's cute way of prompting adult sympathy. He did not like the basement (Mommy was willing to concede that point), but this business of a nearby subterranean country of death and its weird gray-smelling inhabitants was only so much childish malarky. The boy missed his father, and Mommy could not assume Daddy's role as protector—worthless though Clinton himself had been at it—because in a young boy's eyes a woman was not a man. And so she mussed his hair again and abandoned him to his delusive demons.

Cory never again spoke to anyone of the GrayLands. But each night, hating the wet clayey smell of the basement and its gummy linoleum floor and the foil-wrapped heating ducts bracketed to the ceiling and the naked light bulb hanging like a tiny dried gourd from a bracket near the unfinished stairs, he would huddle under the blankets on his cot and talk to the queer creatures tunneling stealthily toward him from the GrayLands—the Clay People, or Earth Zombies, or Bone Puppets, that only he of all the members of this mixed-up household actually believed in.

"Stay where you are," Cory would whisper at the wall. "Don't come over here. Stay where you are."

The monsters—whatever they were—obeyed. They did not break through the concrete to grab him. Of course, maybe the concrete was too

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thick and hard to let them reach him without a lot more work. They could still be going at it, picking away. The Clay People on that movie planet had been able to walk through earth without even using tools to clear a path for themselves, but maybe Earth's earth was packed tighter. Maybe good old-fashioned Colorado concrete could hold off such single-minded creatures for months. Cory hoped that it could. For safety's sake, he would keep talking to them, begging them to stay put, pleading with them not to undermine the foundations of his resentful uncle's house with their secret digging.

Summer came, and they still had not reached him. The walls still stood against them, smooth to the touch here, rough there. Some of the scratches in the ever-glistening grayness were like unreadable foreign writing. These scratches troubled Cory. He wondered if they had always been there. Maybe the tunneling creatures had scribbled them on the concrete from the other side, not quite getting the tips of their strange writing instruments to push through the walls but by great effort and persistence just managing to press marks into the outer surface where a real human being like him could see them. The boy traced these marks with his finger. He tried to spell them out. But he had gone through only his first year in school, and the task of decipherment was not one he could accomplish without help. Unfortunately, he could not apply for help without breaking the promise that he had made to himself never to speak of the GrayLanders to anyone in Aunt Clara's family. If Mommy could muster no belief in them, how could he hope to convince his hard-headed cousins, who liked him best when he was either running errands for them or hiding from them in the doubtful sanctuary of the basement?

Then Cory realized that maybe he was having so much trouble reading the GrayLanders' damp scratches not because he was slow or the scratches stood for characters in a foreign tongue, but because his tormentors' painstaking method of pressing them outward onto the visible portions of the walls made the characters arrive there *backwards*. Cory was proud of himself for figuring this out. He filched a pocket mirror from the handbag of the oldest girl and brought it down the creaking stairs to test his theory.

This girl, fifteen-year-old Gina Lynn, caught him holding the mirror against one of the rougher sections of wall, squinting back and forth between the concrete and the oval glass. Meanwhile, with the nub of a broken pencil, he was struggling to copy the reversed scratches onto a tatter of paper bag. Cory did not hear Gina Lynn come down the stairs because he was concentrating so hard on this work. He was also beginning to understand that his wonderful theory was not really proving out. The mysterious calligraphy of the GrayLanders continued to make no sense.

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"You're just about the weirdest little twerp I've ever seen," Gina Lynn said matter-of-factly. "Give me back my mirror."

Startled and then shame-faced, Cory turned around. He yielded the mirror. Gina Lynn asked him no questions, knowing from past experience that he would respond with monosyllables if at all, but began to bruit it around the house that he could read the marks in concrete the way that some people could read cloud formations or chicken entrails. Uncle Martin, who was home for a long weekend, thought this discovery about his sister-in-law's son hilarious. He called Cory into the living room to rag him about taking the mirror but especially about holding it up to the shallow striations in the otherwise blank gray face of a basement wall.

"Out with it," he said. "What'd that stupid wall tell you? No secrets, now. I want me a tip straight from the Cee-ment itself. What's a rock-solid investment for a fella like Uncle Marty with only so much cash to spare?"

Cory could feel his face burning.

"Come on, cuz. This is a relative talkin', kid. Let me in—let us *all* in—on what's goin' down, basement-wise."

"Who's gonna take the World Series this year?" twelve-year-old David promptly asked.

"Is Hank Danforth gonna ask Gina Lynn to his pool party?" Faye, disturbingly precocious for nine, wondered aloud.

("Shut up," Gina Lynn cautioned her.)

And thirteen-year-old Deborah said, "Is war gonna break out? Ask your stupid wall if the Russians are gonna bomb us."

"Maybe the wall was askin' him for some cold cream," Uncle Martin said. "You know, to put on its wrinkles." All four of Uncle Martin's bratty kids laughed. "You were just writin' down the brand, weren't you, Cory? Don't wanna bring home the wrong brand of cold cream to smear on your favorite wall. After all, you're the fella who's gotta face the damn thing every morning, aren't you?"

"Silica Lotion," Gina Lynn said. "Oil of Grah-velle."

Mommy had a job as a cash-register clerk somewhere. She was not at home. Cory fixed his eyes on Uncle Martin's belt buckle, a miniature brass racing car, and waited for their silly game to end. When it did, without his once having opened his mouth to reply to their jackass taunts, he strode with wounded dignity back down to the corner of the basement sheltering his cot. Alone again, he peered for a time at the marks that Gina Lynn's mirror had not enabled him to read. The scratches began to terrify him. They coded a language that he had not yet learned. They probably contained taunts—threats, in fact—crueler and much more dan-

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gerous than any that his uncle and cousins had just shied off him for sport.

Two days later, in Uncle's Martin's detached garage, Cory found a gallon of yellow paint that Aunt Clara had bought nearly three summers ago to take care of the house's peeling shutters. He also found a brush and an aerosol can of black enamel that David had recently used to touch up the frame on his ten-speed. These items the boy carried downstairs to his private sanctuary.

Stripped to his Jockey briefs, he began to slap runny gouts of latex brilliance all over the hieroglyphs that so disturbed him. At first, he hid a few of them behind the dripping image of a huge lopsided egg yolk. Then, swinging his arm in ever-widening arcs, he expanded this clownish shape into the brim of a festive straw sombrero. The sombrero rim grew to be gong-sized, and the gong ballooned to the dimensions of one of those giant yellow teacups whirling around and around in a local amusement park. Finally, though, Cory had his circle as big as a small sun, a ball of good cheer radiating into the basement as if the very paint itself had caught fire.

He outlined the sun with the black spray paint and added flares and fiery peninsulas that cried out for yet more yellow. Then he painted smaller lamps on other portions of this wall and on the other walls too, and squat tropical birds with combs and wattles, and pineapples as big as the lamps, and a long yellow beach under the glowering sun. His arms ran yellow, as did his pipe-cleaner thighs, as did his caved-in belly and chest. Meanwhile, his face seemed to reflect back the brightness of the obliterated gray that he strove to cover over permanently. If he had to live and sleep in this dank hole in the ground, let it be a happy hole in the ground. Let the light of artificial suns, two-dimensional lamps, and crudely drafted fruits and cockatoos spill into his basement through the pores of the very cement.

Let there be light.

Let there be light to hold the GrayLanders at bay. For Cory believed that the work he had done, the symbols he had splashed up around his cot like a fence of sunlight, would keep the creatures beyond the subterranean walls from bursting through them to steal him away from Mommy and the real world of automobiles and mountains and football stadiums—the real world in which she was trying to make a place for both of them. Maybe he was safer now. Maybe he was closer than ever before to getting out of Uncle Martin and Aunt Clara's basement for good.

But while Cory was admiring what he had done, David came down the steps to ask him to go to the store. His older cousin saw him three-

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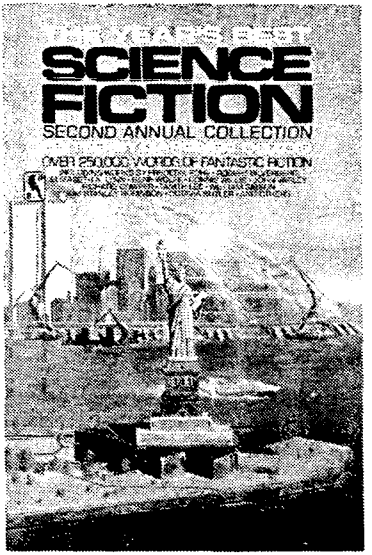

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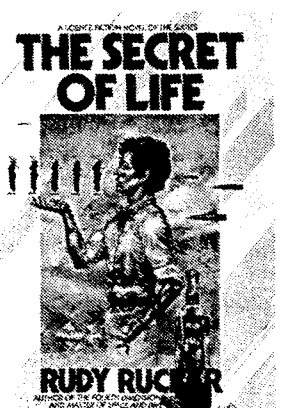

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quarters naked and striped like an aborigine in the midst of a yellow-gray jungle unlike any terrain that David had expected to find only a floor below the family's TV room.

"Holy shit," he said and backed away up the steps as if Cory might be planning to slit his throat on the spot.

A moment or two later, Uncle Martin came storming down the steps in a pair of rope-soled boots that made the whole unfinished structure tremble like a medieval assault tower in an old Tyrone Power movie. He could not believe what Cory had done. He bruised the boy's arm and upper chest shaking him this way and that to demonstrate his disbelief and his unhappiness. He threw Cory onto his cot with such force that it collapsed under the blow and dumped the boy sidelong so that his head struck a section of painted concrete. Yellow paint smudged the whorl pattern of hair on Cory's crown, and a trickle of red worked through the smudge to enrage Uncle Martin even further.

"This is *my* house!" he shouted, slapping Cory again. "No one gave you permission to do this!"

Aunt Clara's pant-suited legs appeared halfway up the trembling stairs. More of her came into view as she descended. When Uncle Martin drew back his forearm to administer another cracking wallop, she cried, "Marty, don't! Something's happenin' on the news. You like the news. Come see what's goin' on. Try to relax. I'll take care of this. Come watch the news."

Uncle Martin's forearm halted inches from Cory's eyes. "Ain't nobody gonna take care of this, Clara!" he shouted. "We'll jes' leave our little Piggaso down here to moon over his shitty goddamn yellow masterpieces! Forever, maybe!" He thrust Cory into the wall to punctuate this last threat, kicked the crumpled cot, and pounded back up the steps, pulling Aunt Clara along with him as he sought aboveground refuge from Cory's whacked-out art. Then the door slammed. Soon after, the naked light bulb near the staircase went out; and the boy understood that one of his cousins, at Uncle Martin's bidding, had flipped the circuit breaker controlling the power supply to the basement.

But for a narrow line of light beneath the door at the top of the steps, Cory crouched beside his cot in utter darkness. Then someone—maybe Uncle Martin himself—put something—probably a rolled-up towel—along the base of the door; and the not quite utter darkness of his prison took on a thoroughness that made the boy think that someone—possibly a GrayLander—had stuck an altogether painless needle into his eyeballs and injected them with ink. He still had eyeballs, of course, but they had gone solid black on him, like licorice jawbreakers or moist ripe olives. With such eyes, he could "see" only darkness.

What about the fat yellow sun that he had painted? What about the

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beach, the pineapples, the sunlamps, and the cockatoos? He put his hands on the damp slabs of the basement walls and felt each invisible figure for reassurance. Was the dampness only the sweat of soil-backed concrete, or was it instead an indication of undried paint? Cory could not tell. When he sniffed his hands, they gave off the familiar odor of grayness—but even bright yellow pigment could acquire that smell when, like a glaze of fragile perfume, it was applied to an upright slab of earthen gray. The boy wiped his hands on his chest. Was he wiping off a smear of latex sunshine or the clammy perspiration of underground cement? Because he would never be able to tell, he gave up trying.

Then he heard a pounding overhead and knew that Mommy had come home from work. She and Uncle Martin were just beyond the door at the top of the stairs, arguing.

"For Chrissake, Marty, you can't keep him locked up in the basement—no matter what he's done!"

"Watch me, Claudia! Jes' you watch me!"

"I'm going down there to see him! I'm his mother, and I've got a right to see him! Or else he's gonna come up here to see us!"

"What he's gonna do, woman, is stew in the dumb-fuckin' Piggaso mess he's made!"

"He hasn't even had his dinner!"

"Who says he deserves any?"

"He's my son, and I'm going to let him out!"

Then Cory's darkness was riven by the kind of noise that a big dog makes when it slams its body into a fence slat, and Mommy was screaming, and Aunt Clara was cursing both Mommy and Uncle Martin, and the staircase scaffolding was doing the shimmy-shimmy in its jerrybuilt moorings. Crash followed crash, and curses curses, and soon all the upper portions of the house seemed to be waltzing to the time-keeping of slaps and the breakage of dinnerware or random pieces of bric-a-brac. Cory waited for the rumpus to end, fully expecting Mommy to triumph and the door to open and the darkness to give way to a liberating spill of wattage that would light up the big yellow sun and all the other happy symbols that he had painted. Instead, when the noise ceased and the house stopped quaking, the darkness kept going, and so did the silence, and the only reasons that Cory could think of were that Mommy and her brother-in-law had killed each other or that Mommy had finally agreed with Uncle Marty that Cory really did deserve to sit alone in the dark for trying to beautify the dumb-ass basement walls.

Whatever had happened upstairs, the door did not open, and the ink in his eyeballs got thicker and thicker, and he came to realize that he would have to endure both the dark and the steady approach of the GrayLanders—Clay People, Earth Zombies, Bone Puppets—as either a

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premeditated punishment or a spooky sort of accident. (Maybe a burglar had broken in during the argument and stabbed everybody to death before Mommy could tell him that her son was locked in the basement. Maybe Mommy had purposely said nothing to the bad guy about him, for fear that the bad guy would get worried and come downstairs to knife Cory too.) Anyway, he was trapped, with no lights and nothing to eat and streaks of yellow paint all over his invisible body and only a tiny bathroom and trickles of rusty tap water for any kind of comfort at all.

Cory crept up the rickety stairs, putting a splinter into one palm when he gripped the guard rail too hard. At the top, he beat on the door in rapid tattoos that echoed on his side like the clatter of a fight with bamboo staves at the bottom of an empty swimming pool. "Let me out!" he shouted. "Let me out of here!" Which was not dignified, he knew, but which was necessary, here at the beginning of his confinement, as a test of Uncle Martin's will to hold him. If noise would make his uncle nervous, if pleading would make the man relent, the boy knew that he had to try such tactics, for Mommy's sake as well as his. But it was no use, and finally he sat down and bit at the splinter in his palm until he had its tip between his baby teeth and managed to pull it free of the punctured flesh sheathing it.

Darkness swallows time. Cory decided that darkness swallows time when he had been alone in the black basement so long that he could not remember being anywhere else even a quarter of the time that he had spent hunched on his cot waiting for the darkness to end. He could not tell whether time was stretching out like a pull of salt-water taffy or drawing up like a spider when you hold a match over its body. Time was not something that happened in the dark at all. The dark had swallowed it. It was trying to digest time somewhere deep in its bowels, but when time emerged again, Cory felt sure that it would be a foul thing, physically altered and hence bad-smelling—gray-smelling, probably—and unwelcome. He almost hoped that the dark would swallow him, too, so that he would not have to confront the stench of time when, altered in this bad but inevitable way, it came oozing into the world again.

Once, he thought he heard sirens. Maybe Uncle Martin had gone to a fire somewhere.

Later, though, he was more concerned that the GrayLanders were getting closer to breaking through the basement's outer wall than that some poor stranger's house had caught fire. He put his hands on the upright slab next to him. He did this to hold the slab in place, to prop it up against the gritty GrayLanders straining their molecules through the earth—straining them the way that Aunt Clara strained orange juice on Saturday mornings—to scratch backward messages into the cement

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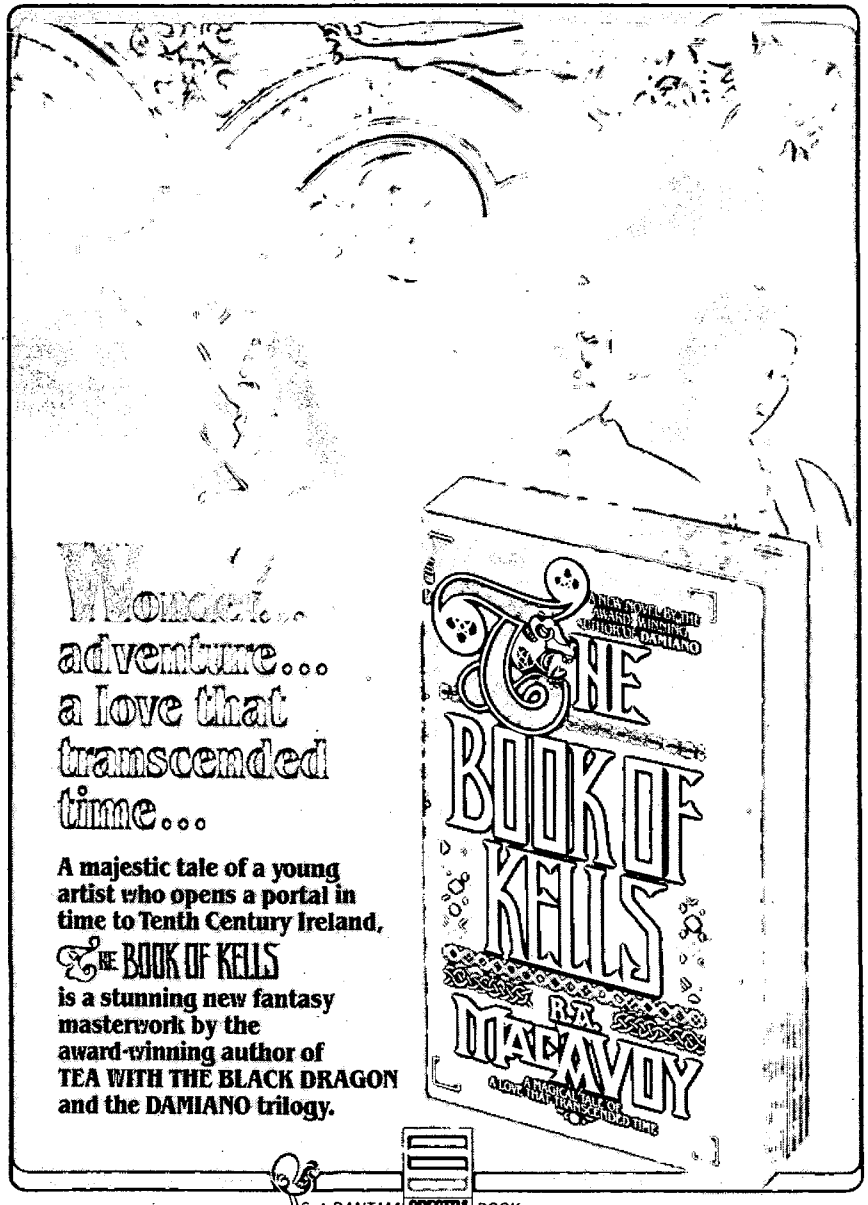
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in a language so alien that not even a mirror could translate it for Cory. No longer able to *see* these messages, then, he began to *feel* the striations embodying them. Maybe the Bone Puppets, the Earth Zombies, the Clay People, or whatever they were, preferred to contact living human beings with *feel*able rather than *see*able symbols.

Like Braille, sort of.

Didn't that make sense? It was smart to think that monsters living underground, in everlasting subterranean dark, would be blind, wasn't it? Cory's first-grade teacher had taught them about moles, which could only see a little, and had even shown them a film about cave animals that had no eyes at all because, in their always-dark environments, they had evolved that way. Well, the GrayLanders were probably like those cave animals, eyeless, blind, totally and incurably blind, because by choice and evolutionary development they made their home in darkness. Which was why they would write backwards on the walls in symbols that you had to feel and then turn around in your head to get the meaning of.

Cory worked hard to let the alien Braille of the GrayLanders talk to him through his fingertips. Probably, their messages would let him know what sort of horrible things they planned to do to him when they at last got through the concrete. Probably, the symbols were warnings. Warnings meant to terrify. A really smart kid would leave them be, but because he had been locked into a place that he could not escape without the aid of the adults upstairs—grownups a kid would ordinarily expect to make some responsible decisions for him and maybe for themselves too—Cory had to struggle to parse the queer dents and knobbles on his own. Alone, in the dark, it was better to know than not to know, even if what you learned made your gut turn over and the hair in the small of your back prickle. So far, though, he was learning nothing. All their stupid tactile messages kept on dizzying him, resisting any kind of reading, making no sense either forwards at the tips of his fingers or backwards or sideways or upside-down in the ever-turning but ever-slipping vise of his mind.

"You're blind and you can't even write blind-writing!" Cory shouted. He pounded on the sweaty slab beside his cot as centuries ago he had pounded on the door at the top of the staircase. Thwap! thwap! thwap! and not even the satisfaction of an echo. Bruised fists and a bit lip, only.

Pinching the web between his thumb and forefinger, Cory got the bent legs on his cot back under the canvas contraption. He lay down on it nursing the pinch and staring through ink-filled eyes at the heavy nothing pressing down on him like the bleak air pressure of a tomb. With a bleak black here and a bleak black there, he crooned to himself, here a black, there a black, everywhere a bleak black, Uncle Marty had a tomb,

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ee-ai, ee-ai-oh. And the melody of this nursery song kept running in his head in almost exactly the way that the darkness kept restating itself all around him. They were both inescapable, and pretty soon they got mixed up in Cory's mind as if they were mirror-image phenomena that he could not quite see straight and hence could not distinguish between or make any useful sense of.

Upstairs, as faint as the buzzing of a single summer mosquito, sirens again.

And then, somehow, the sun that Cory had painted on the wall—the humongous yellow orb with hair-curler geysers and flares around its circumference—lit up like a flash bulb as big as a Mobile Oil sign. But unlike any kind of flash bulb, Cory's sun did not go out again. Instead, in the bargain-basement catacombs of his aunt and uncle's house, it continued incandescently to glow. Everything in the basement was radiated by its light. Cory had to lift one paint-smeared forearm to shield his eyes from the fierce intensity of its unbearable glowing. The images of sunlamps on this and the other walls, and of birds of paradise, and of bananas, pineapples, and papayas—*all* these clumsy two-dimensional images began to burn. They did so with a ferociousness only a little less daunting than that of Cory's big latex sun. It seemed to the boy that God Himself had switched the power back on. For some private reason, though, He had chosen not to use the orthodox avenue of the wiring already in place.

No, instead He had moved to endow with blinding brightness the symbols of life and sunshine that *Cory* had splashed on the walls. If Mommy would not help him, God would. If his aunt, uncle, and four bratty cousins would not release him to daylight, well, God would bring a gift of greatly multiplied daylight right down into the basement to him. Although grateful for this divine favor, the boy helplessly turned aside from the gift. It was too grand, too searing, and that for a brief instant he had actually been able to see the bone inside the forearm shielding his eyes fretted Cory in a way that his gratitude was unable to wipe from his memory.

And then, almost as if he had dreamed the divine gift, darkness reasserted itself, like a television screen shrinking down to one flickering central spot and going black right in the middle of a program that he had waited all day to see.

Ee-ai, ee-ai-oh.

Cory sat still on his cot. *Something* had happened. For an instant or two, the ink had been squeezed out of his eyeballs, and a liquid like lighter fluid had been poured into them. Then the liquid had ignited, and burned, and used itself up, whereupon the ink had come flooding back. Or something like that. Cory was still seeing fuzzy haloes of light on the congealed blackness of the ink. Fireflies. Glowing amoebas. Migrating

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match flames. Crimson minnows. They swam and they swam, and no one gave a damn but the boy in the basement.

And then it seemed to him that overhead a whirwind had struck his aunt and uncle's neighborhood. The darkness roared, and the staircase began doing the shimmy-shimmy again. Only this time the shaking got so violent that the steps and guard rails—a tiny din within the great bombast of the Rocky Mountain hurricane raging above him—broke loose of the scaffolding and like the bars of a big wooden xylophone tumbled into and percussed down upon one another with the discordant music of catastrophe, plink! plunk! crash! ka-BOOM-bah! clatter-clatter! It would have been funny, sort of, except that the roaring and the quaking and the amplified sighing of whatever was going on upstairs—*what* stairs?—in the real world, the dog-eat-dog playground of wild beasts and grownups, would not stop. Cory feared that his head might soon explode with the noise. In fact, he began to think that the noise was *inside* his skull, a balloon of sound inflating toward a ka-BOOM! that would decorate the gray-smelling walls with glistening oysterlike bits of his brain. Gray on gray.

The endless roaring swallowed time. Cory began to forget that the world had not always entertained such noise. It seemed a kind of constant, like air. He wondered if maybe the GrayLanders were the culprits, howling from all the topless basements in his aunt and uncle's neighborhood that they had succeeded in breaking into from their earthen grottos. If so, they would soon be here too, and time would both begin again and stop forever when they opened the sky for him with their grating god-forsaken howls.

Maybe air was not a constant. Cory was suddenly having trouble breathing. Also, the clammy walls had begun to hiss, as if the ooze invisibly streaking them had heated to a temperature enabling them to steam. Gasping, he got down off the cot and crawled along the floor to the niche where an old-time water heater, unemployed since the final days of the Eisenhower administration, squatted like the sawed-off fuselage of a rocket. Cory could not see it now, of course, but he remembered what it looked like. The metal wrapping the cylinder scalded his naked shoulder as he crawled past the antique.

Still gasping, bewildered by the difficulty of refilling his lungs, the boy slumped behind the old heater and turned his face toward an aperture in the concrete wall—an accident of pouring—through which a faint breath of warm rather than desert-hot air blew. He twisted his itching, enflamed body around so that he could thrust his entire head into this anomalous vent. The lip of concrete at its bottom sliced into his neck, but he ignored the minor discomfort to gulp the air leaking through. A gift from the GrayLanders? Maybe. Cory refused to question it, he just

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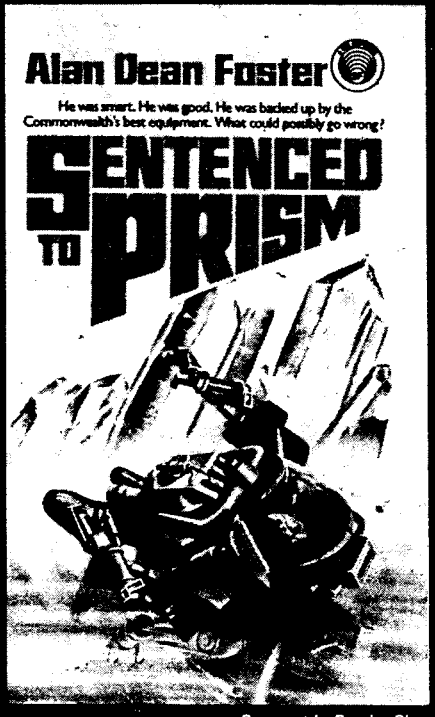
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gulped and gulped, meanwhile praying that the noise would die down and the heat ease off and his oxygen supply return to levels antedating the clamorous whirlwind.

In this unlikely posture, the boy fell asleep. Or, at least, consciousness left him.

When Cory awoke, his ears were buzzing, but the whirlwind had ceased. He pulled his head out of the rough spout in the concrete and found that he could comfortably breathe. He crawled out from behind the old gas water heater. An eerie kind of darkness held the day, but he could see again, as if through blowing smoke or murky water. Parts of the basement ceiling had fallen in, but all the walls were standing, and on them, as dim as the markings on the bottom of a scummy swimming pool, wavered the childish symbols that he had brushed and spray-painted onto the cement. Soot and grime dusted his handiwork, giving a disheartening dinginess to the latex yellow that a while ago—an hour, a day, a millennium—had shouted God's glory at him. Soot and dust drifted around the dry sump of the basement like airborne chaff in the grainery of a farm in western Kansas.

He looked up. The staircase had collapsed, and the door that he had pounded on, well, that door no longer occupied the door jamb framing an empty portal at the top of the fallen stairs. In fact, the doorjamb was gone. Where it should have stood, a refrigerator slouched, its hind rollers hanging off the edge of the oddly canted floor. How it had wound up in that place, in that position, Cory could not clearly say, but because the walls of the upper portions of the house had evaporated, along with the ceiling, the furniture, and its human occupants, he did not spend much time worrying about the recent adventures of the parboiled refrigerator. High above the ruins of the house, the sky looked like a crazy-quilt marbling of curdled mayonnaise and cold cocoa and dissolving cotton candy and burnt tomato paste. Yucky-weird, all of it.

Just as gut-flopping as the sky, everything stank and distant moans overlay the ticks of irradiated metal or occasionally pierced the soft static of down-sifting black snow. Although summer, this snow was slanting out of the nightmare sky. Appropriately, it was nightmare snow, flakes like tarnished-silver cinders, as acrid as gunpowder, each cinder the size of a weightless nickel, quarter, or fifty-cent piece. Right now, the boy was sheltered from their fall by a swag-bellied warp of ceiling, but he had made up his mind to climb out of the basement and to go walking bareheaded through the evil ebony storm.

Bareheaded, barechested, and barefoot.

Before the GrayLanders came.

Which they surely would, now that the grownups, by flattening every-

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thing, had made their tunneling task so much the easier. One of the outer basement walls had already begun to crumble. It would be a relaxing breaststroke for the Clay People, Earth Zombies, or Bone Puppets to come weaving their cold molecules through that airy stuff. And they had to be on their way.

Cory got out of the basement. It took a while, but by mounting the staircase rubble and leaping for the edge of the floor near the teetering refrigerator and pulling himself up to chin height and painstakingly boosting one leg over, he was finally able to stand on the tilting floor. Then, propellering his arms to maintain his balance, he watched with astonished sidelong glances as his Aunt Clara's big Amana toppled from its perch and dropped like a bomb into the staircase ruins below it, provoking a geyser of dust that interthreaded its rising particles with the cinders precipitated earlier by the whirlwind.

But he kept from falling, and looked around, and saw that no longer did the tall buildings of Denver, whose tops it had once been easy to see from his aunt and uncle's neighborhood, command the landscape, which had been horribly transfigured. Debris and charred dead people and blasted trees and melted automobiles lay about the boy in every direction, and the mountains to the west, although still there, were veiled by the photographic-negative snowfall, polarized phosphor dots of lilting deadliness.

Cory pulled his vision back from the mountains. "Mommy!" he cried. "Mommy!" Because he had no reasonable hope of an answer in this unrecognizable place, he started walking. Some of the burnt lumps in the rubble were probably all that remained of certain people he had known, but he had no wish to kneel beside them to check out this nauseating hunch. Instead, he walked. And it was like walking through a dump the dimensions of . . . well, of Denver itself. Maybe it was even bigger than that. The ubiquitous black snow and the yucky-weird sky suggested as much.

And then he saw his first GrayLander. The sight made him halt, clench his fists, and let go of a harsh yelping scream that scalded his throat the way that the down-whirling cinders had begun to burn his skin. The GrayLander paid him no mind, and although he wanted to scream again, he could not force his blistered voicebox to do as he bid it. For which reason, frozen to the plane of crazed asphalt over which he had been picking his way, Cory simply gaped.

Well over six feet tall, the GrayLander was almost as naked as he. The boy could not tell if it were Clay Person, Earth Zombie, or Bone Puppet—it seemed to be a little of all three, if not actually a hybrid of other ugly gray-smelling ogres of which he had never even dreamed. The GrayLander's ungainly head looked like a great boiled cauliflower, or

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maybe a deflated basketball smeared with some kind of milky paste. If the creature had eyes, Cory could not see them, for its brow, an almost iridescent purple ridge in the surrounding milkiness, overlapped the sockets where most earth-born animals would have eyes. The creature's heavy lips, each of which reminded Cory of albino versions of the leeches that sometimes attacked people in television horror movies, were moving, ever moving, like rotten toy-tank treads that have slipped off their grooves. Maybe it had heard the boy approach—the huge, stunned creature—for it turned toward him and pushed an alien noise from between its alien lips.

"Haowah meh," it said. "Haowah meh."

When it turned, the purple-gray skin on its breasts, belly, and thighs slumped like hotel draperies accidentally tilted off their rods. Cory took a careful step back. One of the monster's arms showed more bone below the elbow than flesh, as did its leg below the knee on the same side. Pale lips still moving, the GrayLander extended its other arm toward the boy, the arm that might almost have been mistaken for a man's, and opened its blackened paw to reveal a tiny glistening spheroid. The monster shoved this object at Cory, as if urging him either to contemplate it at length or to take it as a memento of their meeting.

Squinting at the object in the unceasing rain of cinders, Cory understood that it was an eyeball. The GrayLander, blind, wanted him to have its eyeball. Just as he had suspected, the GrayLanders, for whom he had been waiting to come after him, were sightless. They had eyes, apparently, but years of living in the dark, ignoring the realms of light just above their heads, had robbed their optical equipment of the ability to see. What, then, could be more useless than the gift of a GrayLander's eyeball? Cory was outraged. The whirlwind had finally freed this stupid creature—and all its equally ugly siblings wandering like benumbed zombies across the blasted landscape—from its subterranean darkness, and it was trying to give him something that had never been of the least value to itself or to any of its kind.

"Haoweh meh," it said again.

The boy's anger overcame his fear. He jumped forward, snatched the eye from the monster's paw, and flung it off the hideous body of the GrayLander so that it bounced back at him like the tiny red ball connected to a bolo paddle by a rubber tether.

Then, knowing nothing at all about where he was going or what he would do when he got there, Cory began to run. The dump that Denver and its suburbs had become seemed too big to escape easily, but he had to try, and he had to try in spite of the fact that as he ran many of the yucky GrayLanders loitering bewilderedly in the rubble called to him to stop—to stop and help them, to stop and share both their pain and

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their bewilderment. Cory would not stop. He was angry with the blind monsters. They were people in disguise, people just like his dead mommy, his dead aunt and uncle, and his dead cousins. He was angry with them because they had fooled him. All along, he had been living among the GrayLanders and they had never once—until now—stepped forward to let him know that, under their skins, they and their human counterparts were absolutely identical. ●

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"The early universe is much simpler than the weather."

—*Newsweek*, June 11, 1984

Entropy is increasing everywhere.
Far from the center where it all began,
we search for patterns, some coherent plan
governing these vicissitudes of air—
as if this storm approaching from the east,
linked, if remotely, to that final cause,
were any more amenable to laws
than people are. Love, if this weather ceased,
if we were swept back to the moment when
the universe began—chosen to be
honored witnesses to the fabulous
energies of creation, even then—
we'd yearn for the chaos of maturity:
freer, more beautiful, more perilous.

—Susan Palwick

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BUDDIES

by Gary Alexander

Gary Alexander is primarily known as a mystery writer. Most of his fifty-plus short-story sales have appeared in the *Alfred Hitchcock* and *Ellery Queen* mystery magazines, and he is the author of two mystery novels. "Buddies" is his second SF sale, but, happily, he intends to continue writing in the SF genre.

art: Daniel R. Horne

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When Collins deplaned the 747, Haskell was waiting at the head of the ramp. He was jowlier than Collins remembered, with salt-and-pepper in his hair now, but what really struck him was the expensive three-piece suit. He looked unnatural, like a labor racketeer spruced up for a Senate hearing. The smirk that passed for a smile was locked in place, though; some things never changed.

"Good flight, old buddy?"

Collins took his hand, wondering why they always asked that. Thirteen years in the Army, being shipped here, there, and everywhere by Uncle Sugar, and those were the first words out of anyone's mouth.

"Any landing you walk away from means it was a good flight," Collins said, figuring that one cliché deserved another.

Haskell led him from the concourse to the baggage counter, neither man saying much, confining it to cautious chitchat—football, the weather, subjects that didn't require a serious response.

Collins was tired and he looked it. Other soldiers at the terminal in class-A uniform gave the impression of vitality and potential heroism, of purpose. Collins did not. He was losing on top, gaining in the middle. He had gone slack from starchy food and unresolved grievances.

They picked up Collins' luggage and walked to the parking garage. "Chilly in here," Collins said, shivering.

Haskell laughed. "C'mon, it's July."

"Bangkok is ninety degrees year-round. Seattle will take some getting used to. Feels like the North Pole."

"You're not sampling the merchandise, are you? Strung out?"

"No free samples," Collins said. "I'm not crazy."

"You're being transferred where? I forgot."

"Fort Benjamin Harrison, Indiana," Collins said. "Uncle decided I'm such a whizbang clerk, I'm qualified to teach recruits at the school there."

To Collins' surprise, Haskell stopped at a new Caddy Seville and unlocked the trunk.

"Nice."

"Appearances, buddy. No way in hell I could cut the deal coming across like a bum," Haskell said, tossing the duffel bag and suitcase inside. "Traveling kind of light, aren't you?"

Haskell's nerves were showing and that made Collins smile. "No, I didn't hand-carry five kilos of junk. I told you I'm not crazy. Relax. It's in town."

Haskell slammed the trunk lid hard. "Look, my neck's on the block. I had to go on the street for the twenty grand I fronted you."

"I didn't know. When you wrote and asked if we could do this, I thought maybe a rich uncle died."

Haskell answered by unlocking the car and starting the engine, the

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way he always changed a subject, by switching it off as if a light. He drove down the ramp, threw a five at the cashier, and accelerated away without waiting for his change. Collins inhaled the aroma of new leather and plastic, listening in stereo to what they used to call rockabilly. Appearances.

"Look," Haskell finally said as they entered Pacific Highway. "I'm paying four hundred a week juice and I'm three weeks behind. Only reason I still have my kneecaps is that the guys who lent the money are the guys we're selling the smack to. You being a month late, you've put me in a real bind with those folks."

Collins shrugged. "I had a screw-up in my orders. It happens."

"We can't mess around," Haskell said, his fingers drumming on the steering wheel. "We gotta close this thing fast."

"I invested twenty thousand of my own," Collins said. "That's not easy on sergeant's pay. Eight grand a kilo, fresh from the Golden Triangle. Believe me, I had to scrape to raise the cash. Coming up with the bread and getting the heroin out of the country was *my* problem, buddy."

"Yeah, well— I'd feel better, you know, if I knew where it was."

"Nearby. You went to shylocks? I figured you or Darla borrowed on the house or sold it."

"There is no more house, but go ahead and take your shot, okay? I deserve it. Spit it out and get it off your chest."

Shortly after Collins and Darla married, his parents had died in an automobile accident. What they didn't squander from the estate was plunked down on a house and furniture. Collins regarded it as a nest egg, something they couldn't piss away, something that would be there after he finished his twenty years and retired. Soon thereafter, three years ago, he was assigned to Bangkok, to the Embassy's military attache office. He had asked Haskell, his best friend since high school, to keep an eye on Darla and help her out if need be.

He had taken Collins too literally. First came the Dear John, then the divorce papers. Collins had signed them without much caring what they said.

"What happened to the house?"

"Right after we got married, Darla needed an operation. Female plumbing problems. We didn't have insurance, so we had to sell everything. You can understand why we didn't tell you."

"Sure," Collins said, unsurprised. Mr. and Mrs. Haskell's current mailing address was a post office box.

"If you're bitter, I don't blame you. That's why I suggested the deal, to make it up to you. It's not often you can turn ten times your investment."

"I appreciate it," Collins said, only half lying. He had managed to

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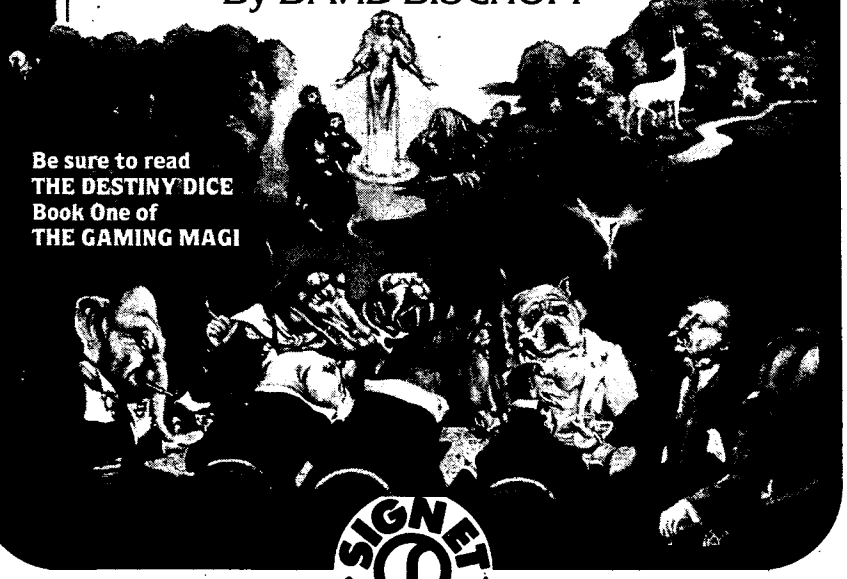

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rationalize Darla and Haskell, aware through experience that the absent G.I. was frequently the odd man out. By picking a career as a military enlisted man, he had chosen to settle for whatever was dished out. The heroin, though, could change things. It already had.

"How is she?"

"Fixed up as good as new. Wish I could say the same for myself. With this lousy economy, it's tough hanging onto a job."

When wasn't it? Collins thought. Haskell's working life had been a jack-of-all-trades goulash of menial jobs—gas station pump jockey, fry cook, foundry laborer, et cetera—lasting two months at most, usually terminating with the smug announcement that he could no longer tolerate an unreasonable know-nothing as a boss.

"But after this, I'll be set," Haskell added. "Both of us. Won't we?"

Collins nodded as they pulled into a motel parking lot. Paint was peeling on the walls, curling like slabs of moldy parchment. Weeds and grass poked through cracks in the asphalt. "Don't tell me it's seen better days," Collins said. "It hasn't."

Haskell laughed. "It's convenient and it's cheap. I would've asked you to stay with us, but the apartment's small and it'd be, you know—"

"Awkward," Collins finished. "No sweat."

"I made reservations for two days," Haskell said. "I suppose that'll be enough time and that you'll want to move on."

Hint, hint. "I have two months accrued leave. I may do some traveling before reporting in at Fort Ben."

"Hell, with the bread you'll have, go AWOL."

"It crossed my mind," Collins admitted.

Out of the Caddy, Haskell said, "Look, these guys, I told them you were due in today. I set up the meet for tonight."

"No," Collins said, taking his gear out of the trunk. "I'm bushed. Jet lag. We'll finalize tomorrow."

"Going for your pound of flesh, aren't you? You know what those guys are like? Do you at least have a sample, you know, a sign of good faith?"

Collins nodded and slapped himself on a buttock. "Let's go inside. We have to talk some more anyway."

Haskell rolled his eyes. "Christ, I don't think I could do *that*."

Collins went into the bathroom and emerged ten minutes later holding a small baggie filled with white powder. Haskell looked at it, squirming in his chair. "It won't bite you," Collins said. "I flushed the outside wrapper."

"I'd never make a smuggler," Haskell said almost reverently.

"It's poison," Collins said.

Haskell laughed again. "That's what the cops and social workers say."

"No, I mean really poison. My contact over there was a spook. I don't

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know what agency he worked for and I was afraid to ask. He'd be in and out of the Embassy, seeing people behind closed doors. He'd be gone for weeks at a time. To Cambodia and the Golden Triangle mostly, according to the gossip. He and I got semi-friendly. We went out on the town together a couple of times.

"This stuff we're dealing, honest to God, is death. The spook set me up with it as kind of an experiment, to see how it works. The opium poppies it comes from, they're a mutation he and his people are developing. They learned about it by accident. Some local addicts got locked up and after two days without a fix, they died. It wasn't ordinary withdrawal they were going through, they croaked. *Fini.* My pal and his bosses are growing it on their own. Gentlemen farmers, you might say."

"They're used to the pure stuff over there," Haskell said. "It was too much of a shock on their systems to be chopped off. Those gooks, I hear, they live on fish heads and rice. They're not too healthy to begin with. My guys will dilute it down to nothing, so don't trip over your conscience, okay?"

"You're not listening. It isn't just the potency. It's different chemistry. My spook pal'd get a funny look on his face when he talked about it, like he was part of some sort of holy crusade. If they can't wipe out drug addiction the conventional way, they'll kill all the junkies and scare anybody else off of ever trying it."

Haskell stood, hitching up his slacks. Pinstripes with vest, five hundred bucks if it cost a penny; Collins still couldn't believe what he was seeing. "Speaking of scaring, that's what the guy's trying to do to you. He probably unloaded a short shipment on you, cutting the shit with milk sugar."

"Take what I gave you to your meeting tonight," Collins said. "People like that probably have quick ways of checking it. They won't be disappointed. Just don't take a snort yourself."

Haskell opened the door and jabbed a finger at Collins. "You say that like you're worrying about me, which is a crock. Don't, okay? And keep in mind that I had to tell them about you in order to get the cash. If you're planning to stab me in the back to get even over Darla, forget it. Consider yourself collateral."

Haskell's harsh tone brought on a rush of butterflies, a pinking of his cheeks. It wasn't how best buddies talked to each other. But, fine, he thought, perhaps we're at the proper level, anxieties and old grudges keeping us on edge.

"Have a nice day," Collins said benignly.

Darla's timing was the only unknown and her knock on the door came at ten o'clock, later than Collins expected. He had been watching TV, channel-hopping. For the past three years the tube had been filled with

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Pa Cartwright and Lucy and Steve McGarrett jabbering in dubbed Thai. To his amazement, evening television was dominated by soap operas, by slinky actresses in tight metallic clothing.

The sight of her cost him a heartbeat and a breath. She looked the same, except slightly more so, heavier in the places that had attracted him when they met in a bar near Fort Ord. He was a little drunk and made an exaggerated hand flourish, inviting her in, noticing as she entered that the clinging pant suit she wore was no K-Mart sale special. But, then, Darla's extravagance was a cross Haskell now bore.

"Drink?" he asked, feeling kind of like a kid on prom night.

She spotted Collins' bourbon and ice bucket and poured herself one. "Top of the line hootch," she said. "We don't have much call for it where I work."

"You have a job?"

"Cocktail waitress. It pays the bills. Sometimes."

"Lots of things I don't know, I guess," Collins said, sipping from his.

She sat on the edge of the bed, staring at the tube. She could lay around watching it twenty-four hours a day, he remembered. "He's worried. He's playing out of his league."

A home computer commercial caught Collins' attention. For under two hundred bucks you could zap a galaxy, balance your checkbook, and practice long division. Three years was beginning to seem like a century. "Tell him not to worry."

"I don't think he can handle it," Darla said.

"You married a grown man, didn't you?"

"He said you were really really classy about it, except that you took a dig or two."

She was leaning back on the bed, on her elbows. There was a kind of dreamy glow about her that went beyond intoxication, beyond horniness. She was always one for a dare.

"You didn't take a snort, did you? I warned—"

"He told me that story. It's really made him jangly, hon. He thinks you made it up so he'd back out and you could do your own thing with the dope."

"It's true, Darla. I saw it. The guy who sold it to me, he took me out to a house him and his superiors own. They had an addict there. They made me watch him die. He was in a little room, literally climbing the walls from withdrawal. It's like in the movies or what you read, where they're in actual physical pain, hand-wringing and nausea, the whole bit. The difference is, the withdrawal's so severe it stops their hearts. The guy didn't know why. He said they were looking into it, but until they found out, the results were good enough for him."

"If it's true, how come you're peddling the junk? You're no killer."

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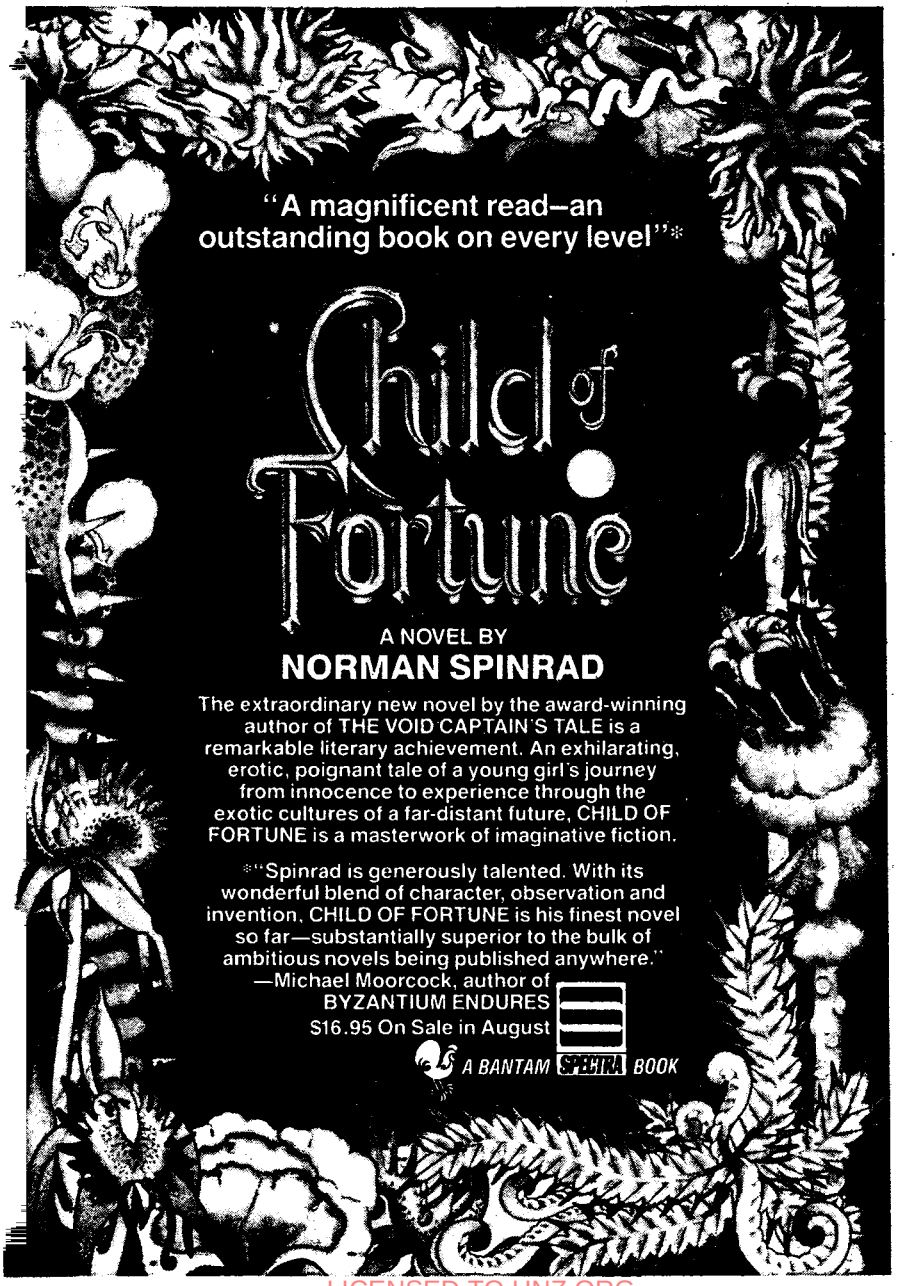
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"I have my reasons."

"They were spoofing you, hon. I don't know why but they were. You and I, you know, could sell the stuff ourselves. He'll screw it up, I know he will."

Collins didn't budge from his chair. He knew if he went to the bed it would be all over. "I don't have it with me," he said.

Guided by what Collins thought was the eerie clairvoyance of marrieds, past or present, she moved to him, onto his lap. "Stashing it is smart," she said, playing with his shirt buttons.

"How've you been since your surgery?" he asked.

"Huh?"

"The operation you had to give up our home for."

"I can't keep track of his lies," she said, hands busy underneath his shirt. "Who operated on me—us—was bill collectors, slow horses, and the mortgage company. We came out of it with zilch."

"Our home had two baths and a rec room. Posts I've been stationed at, colonels didn't live that good."

"Will you?"

"I made a commitment to him."

"So how come the phony story? You're no killer."

Collins stared at her.

Darla laughed, saying, "You a junkie? You're too levelheaded."

He pushed her gently off his lap, stood unsteadily, and refilled his glass. "It's pure, so I snort. No needles. Three times a day or I'm a dead man."

"That's crazy," she said, moving to him. "If you don't believe me about the operation, you can look me over for scars."

He held her at arm's length, tongue-tied for a moment. "I wish I knew what was going on inside your head."

"You and me, hon. That's all. I made a big big mistake," she said, playfully pushing his arms apart.

"Indiana's supposed to be nice this time of year."

The non sequitur slowed her advance. "What's in Indiana?"

"Fort Ben. I'll be teaching. After a year I'll probably be promoted to E-7."

"You had to stay in and be a goddamn lifer," she said, nearly yelling. "The money's lousy and you're gone half the time. What the hell is in it for me?"

"If I got out, I'd be just like him."

Darla grabbed her purse, went to the dresser mirror, and fussed with her hair. "You will show tomorrow and go through with it, won't you?"

"Sure."

"God, if you hadn't been off seeing the world—"

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"I know. Sorry."
"Me too."

Collins walked two blocks to a hamburger joint with franchises throughout the world, including Bangkok. Problem was, the natives had a habit of tinkering with the formula and it wasn't quite the same. His burger, fries, and shake were right off the assembly line, as wonderfully plastic and standardized as mess hall chow. For the first time, he felt like he was really home.

He returned to his room, slightly hungover, thinking of Darla, trying to analyze her intentions. It was pretty clear that she preferred him to Haskell. All she'd ever asked out of life was a man to take care of her. He had taken care of her, but too often by remote control, with long, lonely letters and allotment checks. Haskell was around, but the poor bastard could barely take care of himself.

When he reached his door, fumbling for his key, dropping the damn thing, he had decided to phone her and say, hey, you and me, we'll work out the piddling details later.

Then, stooped over, he saw that the hair wedged between the door and the jamb was gone. Placement of the hair he could ill-afford to lose had been part of a lesson taught by his spook associate.

He lurched inside and hit the light switch, ready for anything, but he found himself alone, his belongings apparently the way he had left them. He took from his pants pocket the notes he had made after unpacking, before starting on the booze.

There was one tiny discrepancy. According to his notes, in the drawer below the one with the Gideon, his shorts had been stacked on top of his tee-shirts. The order was now reversed.

Collins sat down heavily and uncapped the whiskey bottle, knowing that his room had been searched.

Haskell came for him at noon. "We got a date with the head man," he said. "He needs the stuff today. That's what he said last night. I'm lucky to have the skin on my back, buddy."

"Asia makes you paranoid," Collins said, getting into the car, hoping he sounded sympathetic. "The slower pace grows on you too."

"Oh boy, sounds like you've gone hippie on me," Haskell said, the only words spoken until they parked in front of a restaurant on the fringes of downtown.

They walked through the dining room into the cocktail lounge and sat down at a corner booth occupied by a man Collins pegged as something that could easily be an exhibit in a museum of natural history, something

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that should have been extinct during the last Ice Age: large body, no neck, small beady eyes. Introductions were not made.

"Where and when?"

"Real soon, Allie," Haskell said in a quavering voice, cocking a thumb toward Collins. "He's being, you know, super careful."

"I got forty grand out to you," Allie said. "I'm not waiting till Christmas, find the shit under my tree."

A *forty* thousand dollar loan. The Caddy and the clothes. Appearances. "This afternoon. Scout's honor."

"Where, wise-ass? When?"

"Give Haskell a phone number. Like he said, I'm careful. You brought the money, I assume."

"Jesus," Allie said, shaking his head. "You may be dead from the neck up, but you got balls. And what's this garbage about it being a new strain that's gonna off my customers? What numb nuts here brought me last night tests out high-horsepower, so why the fairy tale?"

"Beats hell out of that Mexican brown, doesn't it, Allie?"

Allie glared at Collins, ignoring Haskell.

"It's true. I'm not lying."

"Okay, have it your way. Same question. Where and when?"

"The phone number," Collins said.

Allie scribbled a number on a matchbook cover and threw it in the direction of Haskell, who flinched. "Amateurs," he said. "I oughta have my head examined."

In the car, Haskell said, "Jesus, you and your dead man's skag! And the way you talked to Allie. . . . You got any idea what his reputation is?"

Collins wasn't thinking about Allie, he was thinking about Darla and her visit. "How can Allie frighten a dead man?" he finally said. "I'm a ghost."

"Save the voodoo," Haskell said. "Let's tie a ribbon on this thing."

Collins gave him a key. "It's for a bus-station locker. Make your call."

"No sense paying Ma Bell a quarter when you don't have to."

Haskell came to a stop in a loading zone by a seedy old apartment building and beeped his horn. Venetian blinds had yellowed behind fly-specked windows. Brick walls were more brown than red, the result of pollution and indifference. Darla struggled down the entrance stairs, a suitcase in each hand. Haskell winked at Collins, said "save my place," got out, helped her load the bags in the trunk, and hurried in to phone Allie. Darla climbed in back.

"Going on vacation?" Collins asked.

"No sense hanging around. I don't know exactly where he plans to go,

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but as far as I'm concerned, it'd better be some place where I can work on my tan twelve months a year."

Haskell ran down the steps and hopped into the car. They drove to the bus station and circled the block several times, the three of them swiveling their heads, not certain what they were looking for, but looking just the same.

Haskell parked two blocks away and dangled the locker key. "Ready, partner? One of Allie's troops will be in the can with the money. He'll be wearing—"

"Whoa," Collins said. "Uh uh, *partner*. I did the first eight thousand miles. The last two hundred feet is yours."

Haskell looked at him warily. "I'm not walking into a surprise, am I?"

"I'm being as straight with you as you've been with me."

Haskell didn't care for the sound of that, but he got out of the car. Then Darla said, "We can keep in touch."

"I'm not too crazy about threesomes."

"You and me, hon. He'll make a beeline for the nearest track. I'm splitting before he blows my share too."

"What if there wasn't any money? What if it went sour?"

"Don't talk like that. In five minutes, we'll have our payoff."

"I could blow mine too."

"You won't," she said, massaging his shoulders. "You're solid and conservative. You'll keep us rich."

"Tempting," Collins said.

"He'll get drunk tonight. Tell me where you'll be. I'll find the money and bring it. He owes me. Think of it, hon, four hundred thousand, less whatever he owes those thugs."

Her arms were around his neck now. He saw goosebumps. "You'd better stop playing with that stuff while you can."

"You're too smart for me," she said. "I only did it twice. I can quit whenever I want."

Collins patted his pockets. "I'm out of cigarettes."

"Have one of mine."

"You know I hate menthol. I saw a store on the next street. I'll be back in a minute."

"Hurry," Darla said, blowing a kiss.

And hurry he did, through the store into an alley, then through another store onto the next street, where he hailed a cab and told the driver to take him to the airport, a ten buck tip for you if you break a speed record.

Collins had arrived in Seattle two days earlier, deposited five keys of milk sugar in the bus station locker, and flown to Portland. The international flight Haskell met had stopped over at Portland first, where Collins boarded it.

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The cabbie was taking the challenge seriously and Seattle-Tacoma International was in view, jetliners thundering low overhead, landing gear down. Collins patted his coat. The feel of the airline ticket packet inside was comforting. In four hours he would touch down at JFK and make connections to Europe, enroute to his next duty station in West Germany.

Despite giving Haskell every chance to back out, Collins had a twinge of guilt, thinking of what was happening at this very moment in the bus station rest room. And Darla. *You're no killer.* Poor greedy out-for-number-one Darla. If she were so willing to roll Haskell for the money tonight, where would *he* be in a week or a month?

The taxi squealed to a halt in front of the terminal. Collins got out, thinking of the five kilos of monster skag he had sent ahead in his hold baggage, hoping the small amount he carried would maintain him. He knew he would have to deal with the spook's agency, but was fairly confident he could. Letters to attorneys to be opened in event of my death, et cetera.

If they wished to pursue their noble experiment, they would have to do so without him or the smack. Yeah, it was stupid to get hooked on the junk, but after the loss of Darla—

And if Mr. and Mrs. Haskell had only believed him, then they would have realized that he could not part with the heroin. After all, would a diabetic give up his daily fix of insulin? Would an artificial heart recipient, for Chrissake, pawn the gadget? Eleven pounds of pure death taken prudently should provide a long life, and if the euphoric qualities didn't fade, a rather pleasant one.

The cabbie jumped out and opened his door, an expectant smile on his face. Collins tipped him a twenty instead of a ten and said "have a nice day," really meaning it. ●

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THE EVOLUTION OF THE DEATH MURALS

Flash shadows remain on the walls
and pavements of the ruined cities:
silhouettes of detailed accuracy
with arms outstretched and heads
thrown back, line the empty blocks
or lie upon the streets' decay,
elongated by the angle of the blast,
yet clear as forms which were human.

Such tableaus are "death murals"
to the old survivors, who shun them,
who mutter and turn their eyes away.

Those who were children in the times
now past, have fulfilled the metaphor
these words convey: they've fleshed
and suited the figures with paint,
with scraps of cloth and papier-mache,
so here and there a few stand forth,
instantaneous terror upon display.

They've taken anonymity from clay,
and in the faces have portrayed
the annihilation on its way.

For the children with no knowledge
of that world, the dismembered city
is a labyrinth they roam at will:
the artifacts are incomprehensible,
and the figures poised in mute array,
have become nothing more than targets
for the barbs of splintered metal
they now fashion for their play.

—Bruce Boston

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art: Arthur George

THE DAY WE REALLY LOST THE WAR

by Richard Mueller

The author has three college degrees in theater and an honory discharge from the Coast Guard. He is currently at work on the novelization of *Ghostbusters*, and his work has previously appeared in *F&SF* and *Fantasy Book*. Mr. Mueller's novel, *Jemigan's Egg*, will be published sometime this year by Bluejay Books.

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Your mother has asked me to talk to you, and since she is my daughter, which makes you my grandson, I suppose that I have an obligation. And, I confess, you have always been my favorite. Perhaps it has something to do with the fact that you were named after me, or maybe it's just because you listen when I tell you about the old days. Well then, I have another story for you.

Your mother is concerned. She says that you've been talking about joining the *Bundeswehr* again, and that you're serious about it this time. I think she worries too much. You're only fifteen and you could still change your mind a dozen times before you come of age. But I do think it's time I told you this story, a story I've told very few other people, because the *Wehrmacht*, the *Bundeswehr*, the army is perhaps not quite what you might expect. In fact, of all the possible things you might think could happen to you, of all the possible things you might imagine, life can always get stranger. Remember that, because in the army, no matter how strange it gets, you can't just walk away.

You know we lost the war—my war, the World War. That in itself is a good reason to stay out of the army: you don't always win. And close doesn't count. Hell, winning doesn't count if you get killed. The Russians won the war but lost twenty million people. How happy do you think they were?

Now they say that we nearly won—several times—but we didn't, and it's probably good that we didn't. I've told you about that before, so I won't go into it again. And, as to winning; those times that they said we nearly won—at Dunkirk, at Stalingrad, in the Atlantic with the submarines—well, we didn't, not really. Not that close. Not that close at all.

But there was one time when we could have won—it's true—and I was there, and I saw it, and I—I may have been at least partly responsible for losing the Second World War.

You know I was an officer. I was a captain of pioneers in command of a company of men whose primary job was to blow things up, or fix things that had been blown up. As the German army spread across Europe, they left a lot of wreckage in their wake, and it was our job to fix it. To rebuild bridges, string phone lines, but mostly to work with the railroads. We repaired tracks that the Dutch had torn up as they retreated. In Oslo, we helped maintain the Central Despatching Yard. In Greece, after clearing wrecks from the harbor and demolitions from the public buildings, we were back with the railroad, running a maintenance-of-way station near Salonika. And then came the invasion of Russia.

They called it *Barbarossa*, which is like the English word 'barbarous', and I suppose it was. Three huge army groups, dozens of armies and air forces, logistics and support people, *SS* and *Gestapo*. I suppose that we

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were lucky. Many pioneer companies had to do terrible things: burning ghettos, killing Russians and Jews, building extermination camps. Others worked in the front lines, attacking tanks and emplacements, and were shot to pieces. But we stayed with the railroads, for an army needs to be fed and supplied, and the farther we got from Berlin the longer the railway lines became. So we built bridges, laid tracks, repaired locomotives and rolling stock, and generally saw little of the fighting, at least at the beginning.

When the campaign started we were at full strength—over a hundred men, trucks, equipment, our own railway train—and we worked miracles. And we worked with the best: *Oberst* von der Tann's rebuilding shops at Minsk; Schlossel, the steam genius; Fleckner, who invented the unit repair train and the trackwolf scarifier. Yes, the terrible trackwolf. They were bold times, and while the armies were making the noise, we were making the quiet history. We were tying together by rail the largest collection of fighting men in history.

Some of my men—*Leutnant* Denker, *Feldwebel* Ihn, Graubel, Burk, Toller—had been with me since the beginning, but over the years men had been killed, men had been transferred, and, by the time things turned against us and the Russians began to push us back, we were down to forty-five. Then came 1944 and Army Group Centre collapsed. We were withdrawn to Pskov to be reequipped, to the shops where *Oberst* Fleckner and *Sturmbannfuhrer* Gruning built armored locomotives out of wrecked tanks, bridging trains with prefabricated tracks like giant Marklin pieces, and trackwolf scarifiers. And there we were given a new work train, an armored engine, and a trackwolf.

This was a terrible blow to me, for as long as we were building and repairing railroads I could convince myself that we were winning the war. But a trackwolf . . . only a losing army had use for such a terrible thing. The trackwolf had a large hook; like the kind farmers use to plow their fields, attached to a curved arm of steel. The wolf was mounted on the end of a flatwagon by a great hinge or swivel so that the hook could be raised or lowered by pulleys, and the wagon was ballasted heavily with steel beams or concrete blocks to keep it on the tracks, for the action of it was very violent. The wolf was pulled behind a train, and indeed it was the last train over the line, for when the trackwolf was in operation with the hook down, it cut between the wooden sleepers, breaking them, and tearing the rails apart. That was the reason for the ballast, to hold the wagon on the track while it shuddered and bucked. And from the moment that we received this evil thing our luck changed.

As a trackwolf unit, we operated just behind the front lines, and soon we became subject to bombing and artillery attacks by the Russians. That is, when there was a front. Sometimes the situation became so fluid

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that we found ourselves fighting off Russian infantry until we could pull up the hook and run for it. It was a thoroughly unpleasant way to live. And, to make things worse, there was Himmelfarb.

As the front collapsed and our armies began to compress, the vast group of *SS* functionaries—the black uniforms—that had gone into Russia to annoy the Russians suddenly had nothing to do. So, they set to annoying us. The week that we crossed the border back into Poland, Himmelfarb arrived.

Untersturmfuhrer Eugen Himmelfarb showed up with his own command: four Belgian *Waffen SS* men from Division Wallonie who spoke no German. Of course, Himmelfarb spoke almost no Belgian, or Walloon as they called it. It would have been comical if he hadn't been such a pain in the neck. Like most *SS* officers, Himmelfarb had the authority to mind the business of anyone who didn't outrank him, which meant that in our company only I was safe from direct interference. (Although he could, and did, file reports on me, no doubt detailing all manner of indiscretions, which he despatched to Army Headquarters, where they were no doubt ignored, as I heard nothing further about them.) But Himmelfarb's major annoyance was that he was continually inserting himself between me and my men, interrupting them at their work, and slowing down the entire depressing process of destroying the railroads that we had repaired three years before. Pioneers are rough, crude men, men who work with their hands, and his ill-timed questions and insinuations were soon making my men thoroughly crazy. They complained to me. I complained to Himmelfarb, who listened politely, then filed more reports on my attitude, conduct, and patriotism. But, in the end, I would have the last grim laugh on Eugen Himmelfarb.

It was the spring of 1945, the snowy, early spring, and we were somewhere near Poznan in southeastern Poland. The sky was heavily overcast—which was just as well because it was the only weather that precluded Russian air attacks, the only time the Sturmovik bombers couldn't find us. We were down to eighteen men by then, including Himmelfarb and two of his Belgians, and we were lost.

Leutnant Denker, Burk, and I were bent over our only railway map. It was four years out of date. Denker was a career officer, one of those amiable drunks who had cared nothing for the army since the invasion of Poland. He was convinced that he would not survive the war, and preferred death to what he saw as the only possible alternative—spending the rest of his life in a Russian prison camp. Since we knew neither our location nor the distance to the Russian lines, he was distinctly jumpy. Usually harmless, his nerves were beginning to get on my nerves, and I had to keep shushing him so that Burk and I could study the map.

Karl Burk was a middle-aged draftee, the kind that one finds in all

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armies I suppose: intelligent, disaffected, the sort of soldier that works for an officer in direct proportion to his respect for the man. Luckily, he seemed to respect me.

We looked out across the snowy, frozen bottomland, old and dirty snow pocked with low bushes. There were five railway lines leaving the junction. The map showed three. There were no other landmarks.

"Well, Karl? Where do we go from here?"

Burk shook the snow off his greatcoat as if he were a shaggy dog shedding water. It was another way that he showed displeasure with the army, by letting his appearance deteriorate as far as circumstances would permit. "*Hauptmann*, I'm damned if I know." (He said my rank the way another man might say 'Max' or 'Hermann.' He never let me forget that he was comfortable around me, and that any obedience was based on friendship—friendship and shared experience.) "The question is, where's Ivan?"

Denker moaned at that and Burk grinned. "Easy, *Leutnant*. We'll be ripping up tracks in Berlin before you know it."

"I heard that," Himmelfarb said snappishly. He'd slipped up behind us as we'd conferred. "That's defeatist talk. The armies of the *Reich* will prevail, and when we've pushed the sub-human Russian Jew-mongrels back into Asia, and destroyed the British and Americans with our wonderweapons, we'll take care of defeatists like you." (It sounds silly now, but many *SS* men talked like that. One got used to it after a while.)

"Very well," I said, trying to maintain a semblance of command, "but until the war is won, Karl Burk is my best man and I need him. Now then, Karl. Which way?"

He turned to survey the tangle of tracks, and all of us hung on his word, even Himmelfarb. Burk was the smartest of us and we all knew it. He had saved us more than once.

"That line there looks to be the newest. There's no embankment, barely ballast, which means that it was probably put in to work around a bottleneck—the bridge over the Warta, or that mess at Leszno. If we tear that up it should cause the Russians the most trouble . . . and take us the farthest toward home," he added in a whisper.

"I'm for that," Denker sighed.

"But the junction, the points," I said. "Too strong. They'd throw the wolf on her back. Take the train on through and we'll blow up the rods and pivots."

While Denker supervised the demolitions, Burk and I walked around to the spur he had chosen. He kicked at the rails.

"Look at this, *Hauptmann*. Green wood sleepers, twenty kilogram rail, a finger of gravel over bare dirt. When the thaw comes, this line will sink straight into the muck."

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"When the thaw comes, this muck will be Russian," I replied, watching the armored engine *Dora* ease our train onto the spur. The rails whimpered a bit but they held, and I realized that a really heavy train would have broken through. At that moment, Denker doubled over and ran and, with a series of sharp, cannon-crack reports, the beautiful, intricate railway junction was reduced to a tangle of tortured junk. It was moments like that that I really hated losing that war.

Twenty yards beyond I signalled Toller to let down the hook. Typically, he looked at Burk, who nodded. Himmelfarb saw it too. God, I thought, there goes another note to Army HQ for some *SS* clerk to add to my file.

I waved the men aboard and we started down the spur connector. There's nothing that makes such a godawful noise like a trackwolf. Between the crack of the sleepers, the popping loose of spikes, and the scream of twisted rails, bending and curling away from the force of the blow, it sounds very much as if hell has opened an amusement park next door. It even drowns out the sound of the engine. Ghastly. With that much sound going on you can't hear anything coming . . . planes, tanks, so we kept a tight watch for the everpresent Sturmoviks, clouds or no clouds. That was my job, as Burk ran the hook and the others were fundamentally useless, so I was perched high on *Dora*'s cab when we hit it. Luckily I knew how to fall, because I landed on my back in the coal bunker.

"What the hell?" I groaned as Toller helped me to my feet.

"Sturmoviks, *Hauptmann*?" Toller was battle-happy and saw Sturmoviks everywhere.

"No, I don't think so," I said, clambering up to look over the end of the tender. Burk was examining the hook.

"Karl, what happened?"

"I think we hit something," he called, "but I'm damned if I know what."

"A rock?" Denker asked.

"Wrong kind of country for it. Back her off and I'll raise the hook."

We did, and using a pulley rigged to stout wooden sheerlegs, we hoisted up the wolf. The point was missing, snapped off a handspan back from the tip. We examined it in silence.

"Will she still break?" I asked at last.

"I guess so. I'd sure like to see what she hit. That point should have punched through a King Tiger at the speed we were moving."

"O.K., let's dig it up."

We raised the hook, lowered it, caught the edge again, raised it, moved, lowered, and apparently landed on the upper surface. The hook worked this time, riding along on the buried object, splitting the track and digging a shallow furrow in the roadbed. I looked down and saw Graubel, walking right behind the hook, the sleepers splintering under his feet.

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"Graubel," I cried, "get out of there."

"*Hauptmann*, there's something black down there."

"Well, move off and leave it alone."

With a sucking thud, the hook sank to its usual depth. I signalled the driver to pull *Dora* up short.

"How far?"

Burk paced it out. "Sixty meters. It's no tank."

We stepped down and gathered around the furrow. The only sound was the hiss-and-valve cycling of *Dora*'s boiler.

"I'd sure like to know what's under there," Burk said softly.

"Well, I think we'd better find out," I decided. They all nodded, even Himmelfarb. Sixty meters of shallow furrow. I looked at the dirty white sky hanging low over the dirty white snow, the trail of twisted rails stretching behind us like footprints or droppings, and I realized that I was feeling an alien emotion. Often in the war I had felt frightened or angry, but never had I felt so deeply uneasy.

The rails had been split, but we needed to pull them farther open to get at the buried object, so ground anchors were placed and our heaviest lines and pulleys connected to *Dora*. She moved forward, and effortlessly parted the rails. The men gathered around morosely. From there on it would be pick-and-shovel work.

As they cleared the sleepers and gravel, widening the trench, Denker shifted from one foot to the other, puffing and looking anxiously to the east. "If we take too long at this, the Russians will catch us," he muttered.

"Don't worry, Hans. I put Toller on lookout."

"But he only looks for Sturmoviks. He wouldn't see a tank unless it flew."

"*Hauptmann*," Burk called from the trench. "If we had some help this would go faster. Could we use the blackshirts?"

I frowned at that. Burk was obviously trying to bait Himmelfarb, but the *SS* man was too fascinated to take offense. Wordlessly, he waved the two Belgians forward.

It was cold and growing darker as the shape of the thing began to emerge. It looked vaguely like an aircraft, very streamlined, and reminded me of one of our Komet rocketplanes, but bigger, much bigger. And then Burk cried, "We've found a door."

Denker, Himmelfarb, and I clambered down into the digging, the soldiers scattering out of our way. Burk was clearing dirt from the hull, which was black, featureless, and smooth, but he had discovered an anomaly: a curved rectangular fissure, and a series of depressions, like the holes in a bowling ball.

"What do you think?" I asked.

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"I think that this is a door and these are the lock." He leaned close and peered into one of the depressions. Then, using the cleaning rod from his pistol, he began poking around.

"Careful."

"Cleaning out the dirt . . ." he began, when something let go within the object. There was a loud snapping sound and, with the hiss of escaping air, the door folded outward. Most of the men nearly killed themselves trying to get out of the way.

Burk had backed into me and we stood stock still, watching the strange door. It seemed to bend in the middle without a hinge or a seam—the way you might fold a sponge, or a slab of meat—and lights came on in the rim of the opening. Burk sniffed carefully.

"The air is going in. See, no smell."

"A vacuum?"

"*Ja.*"

We edged forward to examine the opening, but beyond the lighted rim lay a profound darkness.

"Well?"

Well indeed.

"Are you going in?" Himmelfarb asked, edging cautiously back into the pit.

"What is it?" Denker whispered.

"I think that it is a spaceship," Burk pronounced reverently. We looked at each other in awe, and at the curving black doorway with its beckoning lights.

"Is it from Russia?" Toller called. Himmelfarb glared at him.

"It is from Mars," he declared imperiously. "As in the fiction of the *Engelander* H. George Wells."

"I'm surprised at you, *Untersturmfuhrer*," I said. "I didn't know that you read decadent literature."

Himmelfarb snorted derisively. "In the *SS* we are subjected to duties and privileges denied to other men. I have read widely among certain foreign authors. It is the best way to understand the enemy, so as to defeat him."

"I wonder if the Russians do that," Burk said with a smile.

"Someday, Herr Burk, you may find out what the Russians do." Pretty good for Himmelfarb, I thought. He held out his hand. "Quickly, your torch."

Burk raised his eyebrows but handed it over. "Are you going inside, sir?"

"I am. Are you coming, *Hauptmann*?"

I nodded. I certainly didn't want to let Himmelfarb loose in there alone. "Burk?"

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"Wouldn't miss it, sir."

As we started in, Denker touched my arm. "Any orders, sir? In case you don't come out, I mean."

"Yes. Get the men working. We're going to dig her out and take her with us. No sense in letting the Russians have her."

The darkness was unnaturally thick, and the beam from Burk's torch seemed barely to penetrate it. "This is strange," Himmelfarb muttered, and I felt him put out an arm to steady himself. His hand must have hit a wall switch, because the passageway instantly flared into brilliance.

"Ahhhh!" we all cried out together.

"Anybody dead?" Denker called.

"No, we're fine. Go on, *Sturmfuhrer*." Himmelfarb nodded and moved forward. "And please don't touch anything."

The passage was made of smooth, curved metal, inset with grills, handles, depressions and protrusions, some like hemispheres and some like little nipples. Burk pointed to a hemisphere, about the size of a large orange. "This turned on the lights, *Hauptmann*, and these little holes look like the ones outside. I would guess they work the door."

"That's good to know," I replied, hurrying to keep up with Himmelfarb, lest he blunder into something dangerous. He was standing at the entrance to the next chamber. Burk pointed to a hemisphere just visible in the torch, laid his hand upon it, and this chamber too was filled with light.

"Thank you," Himmelfarb whispered, his feud with Burk momentarily forgotten.

We worked our way through the spaceship, section by section, finding what we determined to be equipment rooms, an engineering space, crews' quarters, and a communications or radar room. In several we came across small piles of gray dust and fragments, which Burk insisted had been the crew. "They must have been here a very long time," Himmelfarb said softly, an unaccustomed reverence in his voice.

"Ashes to ashes," was all Burk would say. I nodded.

"It could have lay buried here for centuries. If we hadn't found it, erosion would have done the job eventually."

"But we did," Himmelfarb said. "It must have secrets, weapons, technical marvels. Think of it, Kline. It's going to be a whole new war."

I had thought about it. I'd been getting comfortable with the idea that this one would soon be over, and now there could be years of it ahead as German troops—armed with Martian weapons—marched back across Russia. The thought was enough to make me groan.

"Are you all right, *Hauptmann*?"

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"Yes, fine, but perhaps we'd better find the cockpit, or control room, or whatever."

"Yes," Himmelfarb agreed eagerly. "The weapons will be there."

And they were. There were no labels or identifying marks of any kind that I could see, but there were four control stations with child-sized seats, two before the windshield—hard-packed with earth—and two to the sides, facing screens that had apparently come on with the lights. Indeed, in this chamber there were lights everywhere, mostly in reds, oranges, yellows, and the flooring beneath was giving off a soft, deep humming.

"It's alive!"

"Don't be ridiculous, *Sturmfuhrer*," I said. "We've just activated the automatic systems. I think we'd best be extremely careful what we touch."

Burk whistled. "I wish we knew how to build batteries like this."

"Batteries?" I asked, misunderstanding. Burk had wandered into the center of the control room. He turned and gestured at the buzzing, blinking lights, his head brushing the cabin ceiling.

"Yes. Storage capacity that's held up for how long? Centuries? The power source of this thing could be eternal. If we knew how to operate these controls, I'd bet we could fly it out of here. Look: pilot, copilot, gunner? Radio operator? Flight engineer?" He touched a handle, some sort of tiller, and a crawl of green lights came on, superimposed upon the windscreen.

"Careful."

"I know, *Hauptmann*. It's active. And this?" He touched another lever, this one activating one of the side screens, covering it with red geometric figures.

"*Please*, Burk," Himmelfarb cried, but Burk was staring in amazement at the screen. I edged forward to look over his shoulder at the strangely familiar pattern.

"I know what that is," Burk whispered. I strained to understand. A series of red rectangular geometric solids, but twisted, as though I was seeing them from a distorted perspective, lined up one behind the other. A set of parallel lines ran from one end of the solids to a vanishing point, and from the other expanded to curve around and separate off the screen. Several disconnected squiggles of red, some moving, some stationary, completed the strange diagram. It did look familiar, but in what way I could not say. Burk began to laugh.

"I know what it is. Can't you see it?" I looked again, just on the edge of recognition, but Himmelfarb snorted impatiently.

"No, damn you. What is it?"

"There, look," Burk said excitedly. "The long shapes are *Dora* and the

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train, the vanishing lines are the rails. The moving points are the *Leutnant* and the men."

Himmelfarb squinted. "We don't look like that."

"Of course not. It's a radar image, and a very sophisticated one. This lever is a range finder, or perhaps a camera. Perhaps this is how they see us." He moved the lever and the image swirled dizzily, ending up from a new, though still distorted perspective. I reached over carefully and removed his hand from it.

"Or it could be a trigger. Please, Karl. I'd rather not kill off any of my own men." He nodded soberly. "So let's not touch anything. Well, *Sturmfuhrer*. Do you think we can win the war with this?" I asked, surprised at how sarcastically it came out. Himmelfarb was still too dazzled to notice.

"Yes, Kline. It will have to be tested, of course, but it should be easy. I should like to be there the first time this avenging Valkyrie swoops down upon the Russian lines."

I nodded, watching as one of the men, Graubel, appeared in the windshield, clearing dirt away with a shovel. I waved, but apparently he couldn't see in, for he sat down heavily, his bum obscuring my vision. There he is, I thought, a symbol of the new Germany.

"It's going to be a long war," Burk muttered. Himmelfarb, entranced, was peering at the range-finder screen. Then Graubel rose and left, and I heard Denker calling from the doorway.

"*Hauptmann*, you'd better come. Quickly."

We trooped back to the entrance, leaving the lights burning behind us. Denker was waiting at the door. After the orderly cleanliness of the ship he looked particularly shabby, and I realized how far we'd fallen since 1939. War is not a neat business.

"What is it?"

"We've found some sort of markings."

"Markings?"

"An insignia maybe, or perhaps it's something else. You'd better come see." We followed him across the sloping dirt to where the men were gathered in a circle near the ship's nose. A few were talking quietly, Graubel was laughing, Toller picking his nose and sullenly watching the skies, but the rest just waited, as we broke through into the center. Graubel chuckled and pointed at the hull.

There was a series of deeply cut grooves running in three directions, intersecting at sharp angles to form a star. A six-pointed star. It was at that moment that *Untersturmfuhrer* Himmelfarb uttered the singularly most stupid statement that I have ever heard, before or since.

"*Mein Gott*, Mars is full of Jews!"

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I was thunderstruck. Graubel collapsed laughing in the dirt and rolled down against the hull. Burk's jaw dropped. I turned to the *SS* man.

"You cannot be serious."

"It is the Star of David. A Jew symbol . . ."

"It's a geometric design," Burk protested, "like a square or a triangle. That's all it is, two triangles." He leaned forward and stuck his face into Himmelfarb's. "There are no Jews in space."

"How do you know?"

"Because that's crazy!" he roared.

"And you are a traitor!" Himmelfarb screamed, drawing his pistol. That was the last straw, and I lunged, knocking the weapon into the dirt. Himmelfarb's eyes bulged as if someone was choking him. "You're all traitors," he cried. "This is a Jew thing. Shoot him!"

But *Feldwebel* Ihn had taken the precaution of disarming the two Belgians. The men stared at us; at Burk, Himmelfarb, and me, and I knew that I should say something, that I should reestablish my command, but I didn't. Somehow it just seemed not to matter. I smiled foolishly, shrugged, and then began to laugh. Himmelfarb spun angrily out of the circle and disappeared. Still chuckling, I stooped down and retrieved his pistol.

"He won't be very dangerous without this," I said, but Burk's face was pale.

"The range-finder gun," he said, and we both broke and ran for the doorway, but when we reached it there was a third possibility we hadn't counted on. Himmelfarb had a grenade.

"Keep back," he said, waving the potato-smasher by its handle, and I made another mistake. I should have shot him. But in the same moment I realized that I had been through five and a half years of war and had never shot anyone. It seemed like too good a habit to break.

Burk was not armed. "Please," he whispered, "you can't. The loss to science. It would be incalculable. Please, *Untersturmfuhrer,* it's not Jewish. I promise you, on my mother's grave, I promise you. You mustn't hurt it."

"Liars. Traitors and liars," the *SS* man hissed, and I was sure at that moment that he would relent and throw the grenade at us instead. I never got the chance to find out. Perhaps Burk thought the same thing, because he sprang forward crying, "Run *Hauptmann,*" and barrelled into Himmelfarb, the two of them crashing backward, over the lip of the door, and into the ship. With a sigh, the door folded down and closed.

I took a step forward and reached for the depressions, the ones that Burk had triggered the first time, intending to open the door. To help Burk. To help Burk before the grenade went off.

And I lost my nerve.

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I turned and sprinted up the digging, crying, "Run, it's going to explode," realizing how silly I would feel when the door opened and Burk stepped out. Wondering what to do with Himmelfarb. Wondering where to turn in the mysterious spaceship.

And then the whole world exploded.

War is not a pretty thing. It is not a decent thing, a noble thing, a sane thing, and it destroys everything it touches. In that moment I think I believed that I had rather died a civilian a moment before the war had started, than had survived it as a soldier. And, because I did survive, and I have a good and loving family, I am ashamed to admit that now and then I still feel that way. That is sufficient reason enough that I tell you this.

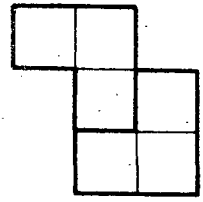
Yes, it is. ●

For Dave Dickenson
Los Angeles 1985

MARTIN GARDNER (from page 37)

SOLUTIONS TO SEX AMONG THE POLYOMANS

Figure 2



The missing shape is shown in Figure 2.

In addition to his 3-cell animals, Dr. Matsu also constructed polyomans with orders as high as 25. (The order of a polyomino is the number of cells it contains.) Some of the animals with five or more cells, he discovered, on rare occasions conjugate in triplets, quadruplets, and even quintuplets.

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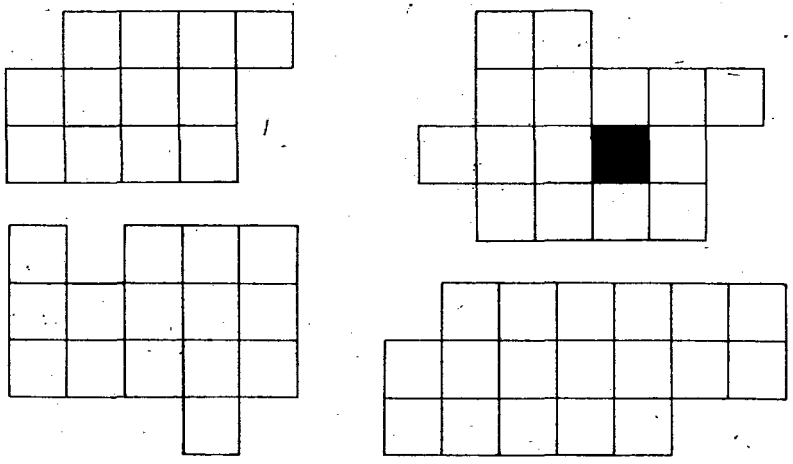

Figure 3

At the top of Figure 3, on the left, is a 12-cell animal formed by a pair of conjugating 6-cell creatures. Can you divide this shape into two identical 6-cell animals? On the right of this shape is a 15-cell animal formed by a triplet of conjugating 5-cell creatures. Note the interior hole. Can you cut this shape into three identical 5-cell animals?

At the bottom of the same illustration, on the left, is another 15-cell creature that you are asked to divide into three identical 5-cell animals. On the right is an 18-cell animal to be cut into three identical 6-cell polyomans.

Try to solve these puzzles before looking at their solutions on page 110.

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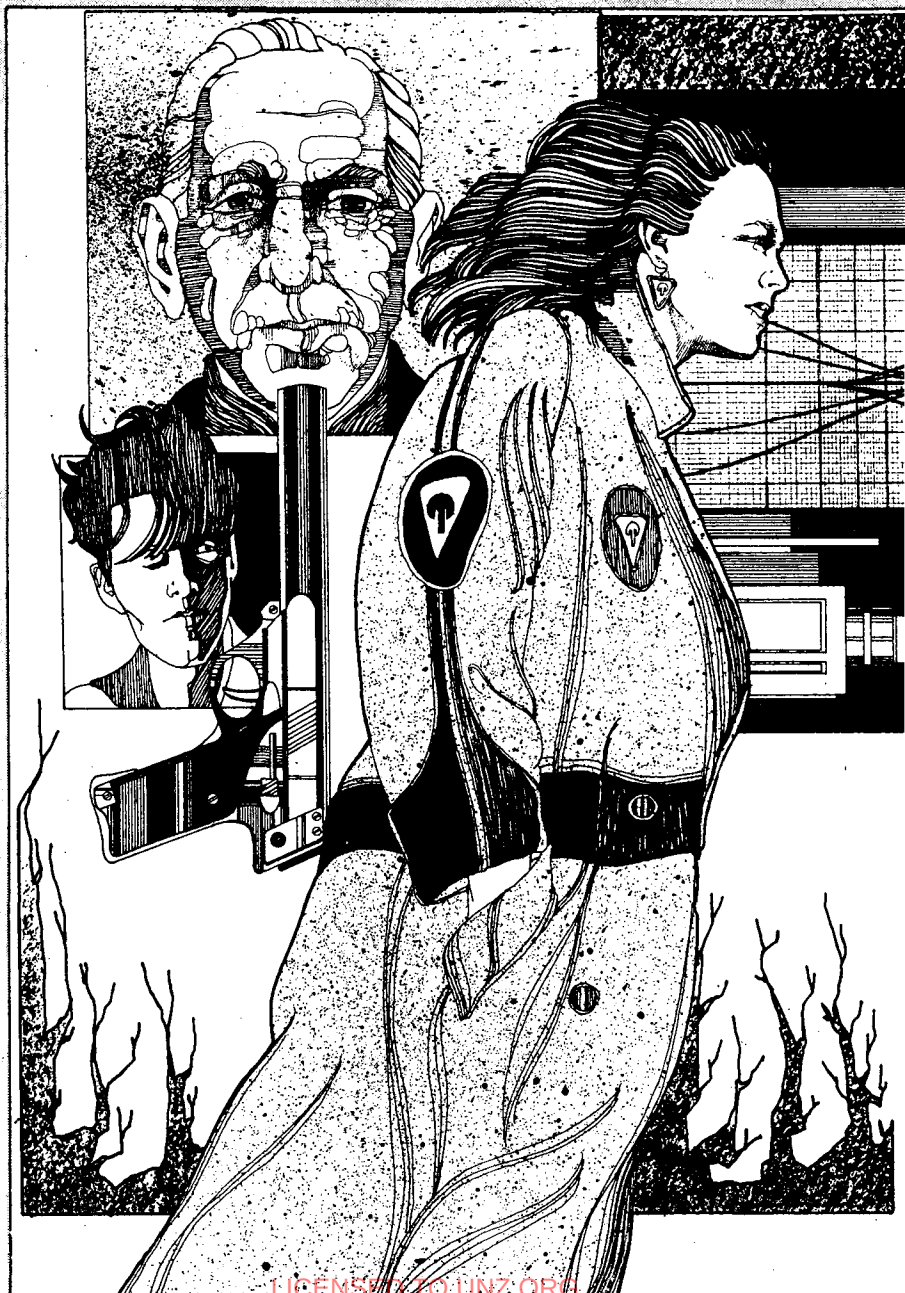

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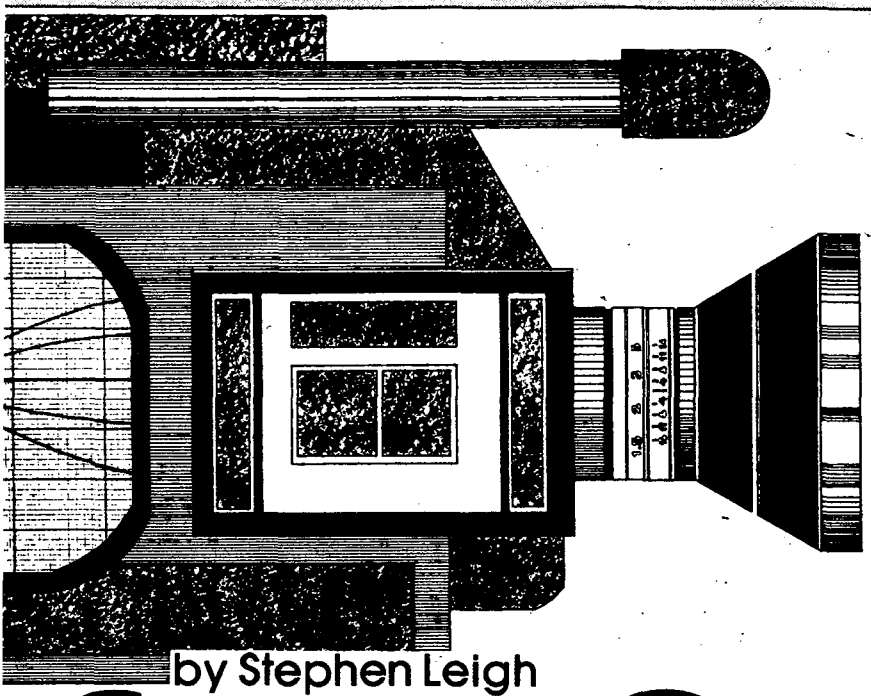

by Stephen Leigh

SHAPING MEMORY

art: George Thompson

Stephen Leigh is the author of several novels including *A Quiet of Stone* (Bantam, 1984) and *The Bones of God* (recently sold to Avon Books). He is the bassist and vocalist for a jazz/rock group, and two years ago, he and his wife, Denise, became the "inordinately proud" parents of a daughter, Megen.

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Megen Welte wished that when she thought of her father she could remember him alive. Mostly, the memories were of those horrid last few seconds.

She was perhaps six, then. A local news station had contacted her father—would he be willing to be interviewed as part of a series on the Aasta'an failure? By then, the world had already missed the first payments on the Alliance settlement loans. Kyle Welte was as much a part of the financial mess as anyone: he had three mortgages on the swamp he called a farm, and no money to make the payments. For the fifth straight year, what he'd planted had withered or simply failed to come up at all.

During that filming, relating all the frustrations and setbacks he'd experienced, Kyle Welte had pulled out a gun and scattered his brains around the room. Under the lights. As Meg and her brother Tomas watched.

Meg remembered seeing her dad slump to the floor. She remembered the newswoman cursing monotonously as she wiped at the hopeless mess on her skirt. Meg had stared, not really comprehending until a scream tore itself loose from her throat. Tomas had taken her, cradling her head against his chest, turning away himself.

Kyle Welte's final act, like the rest of his life, was a failure. The interview was never shown. His dramatic gesture of defeat was simply a scar in his daughter's mind.

Walking the streets of Aasta again reminded Megen of such things. She could almost see the half-submerged swamp, her dad toiling knee-deep. Not for long—the foolish hopefuls who lived on this world were being asked to leave. Aasta, or at least the financial misery that the Alliance accountants thought of as Aasta, had been declared bankrupt. The Alliance was leaving. All those on Aasta were being urged to go with them. Meg had been sent to watch the dying world's final twitches.

She went because Aasta had been her homeworld.

She went because Gershom d'Vellia was there as well.

She was not certain which was the more important reason.

Megen stood at the entrance to Gershom's studio, the door yawning around her. An unseen soundsystem sobbed with the mournful dissonance of dirgepipes. A massive block of lifianstone brushed the ceiling. Its bulk prevented her from seeing much of the room, but there was a window to one side. There she could see Gershom, staring outward to where the sun dazzled off the stagnant fen.

He looked emaciated, but then no one had been eating well on Aasta. He glanced back over his shoulder, stared a moment. She smiled at him, hoping he'd say the right words.

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His dark eyes narrowed. His lips pursed somewhere between scorn and irritation. "I don't like visitors," he said.

The smile collapsed, but she waited. Gershom had never been one to care about impressions or politeness, and their last meeting had been angry. *You've a job to do here, that's all. It's been a long time since you let his mannerisms bother you. Treat him as you'd treat anyone else.*

"You might as well come in, Meg," he said at last. Gershom stepped away from the window, giving Meg a glimpse of warehouse roofs and the weed-choked swamps. He came to a halt in the middle of the studio, leaning against the lifianstone. His fingers unconsciously kneaded the block's surface, the soft rock yielding underneath his touch.

"This isn't a social call, Gershom. I want to do some filming."

His face twisted. "An *interview?*" The words seemed to have a foul taste. Dirgepipes wailed behind him.

"No, just film. I thought I'd do a voice-over commentary back in the studio. I'd like to get some dialogue with you as well, but that can be done later. If you want to."

His drawn, pinched features relaxed. He shrugged again. Meg walked in, followed by the phalanx of three holocameras. She thumbed them on and they slid into position around her.

"I heard they'd sent you to cover the debacle—'local woman returns to view Aasta's final days.' Something like that."

"It's my homeworld, Gershom. When the network offered me the assignment, I took it. I couldn't think of anyone who'd do it better. Did you think that I might stay away since you were here? I've never been that frightened of you, not when we were married to each other, and not now." She heard her voice becoming bitter, strident, and she stopped, taking a deep breath.

"Why do you defend yourself when no one's attacking?"

Meg started to reply heatedly, then realized that he was right—her tone had been colored with the rancor of their old, unhappy relationship. She thought of apologizing, didn't, and resorted to cliché. "I hope you're well?"

"Is that all you can say, Meg? You should be better at opening conversations with strangers." He stared at her, dark eyes in a hollow face.

Don't let him do this to you. "We're not strangers," she replied, softly. "We never can be—even if we might like that."

When he didn't answer, she began recording, directing the cameras to slowly pan the room. Gershom ignored their presence with affected nonchalance. The room ghosted across the back of her eyes: the relays sent the camera viewpoint to her as a visual overlay. She checked the focus and looked at Gershom.

Beyond the gauntness, he hadn't changed a great deal: a shock of

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unkempt, light hair, intense dark eyes, a restless stance that spoke of an untapped store of nervous energy. Meg let the holos finish their survey. She ended it standing before his workbench, zooming in on the well-used mallets and chisels. Gershom's gaze followed her; otherwise he stood where he was, hands clenching and unclenching, leaning against the cold stone. Meg wondered how he stood the chill of it.

"So what's the latest, Meg?" he said at last. "When does the Great Removal take place?"

She looked back at him. In her head, the holos followed slowly, drifting from workbench to sculptor. "Soon enough. Aasta forfeits on the '98 bond tomorrow, and I think the government back on Niffleheim will react quickly. I expect Hinda-Weller to make the announcement in no more than a local week."

"Unless Aasta can find a way to make a payment, or find another loan."

"Not a chance." Meg shook her head, and long dark hair moved. "No world or organization in or out of the Alliance would loan this world anything. There's nothing on Aasta but muddy room—there's plenty of better land elsewhere."

"There's *people* here as well, Meg, which the Alliance seems to forget. People who don't want to leave." He laughed bitterly. "Hell, the riots should have shown that—twelve people killed last week."

"Those aren't riots, Gershom. They're demonstrations put on for the cameras. You think I can't see that? All any of the news agencies has to do is turn on the holos and everyone comes running. Yah, maybe a few of the incidents got out of hand, but they don't reflect a mass refusal to leave. In any case, those who insist on staying can do so. The fools will die, though; not even the Trading Families will think it worth their while to come here once the Alliance is gone."

Gershom ignored that. A slow smile flickered on his lips. "Isn't it amazing how well we talk when it's not on a personal level?"

She swung the holos about until she saw the lifianstone, reduced the focal length of the lenses until Gershom was dwarfed by uncut stone. "Then let's be more personal," she said. "How's your work?"

Gershom could not see the camera view. He missed the sarcasm of her remark. "I'd have thought you'd keep track of that," he answered. "You used to be interested."

"I was. I am." She couldn't keep all the irritation from her voice. "In 134 you produced the 'Epseitor Ascendant.' From 135 to 139 you created ten soundsculptures, some of them among your best. You came to Aasta, and showed only two mediocre pieces up to 142. From then to now, nothing."

He exhaled in amusement, a sound as frigid as the stone. She zoomed

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in on his face, on shadowed eyes. Then down, to hands ridged with prominent veins and broken, dirty nails. Back up. The dirgepipes skirled a discordant flourish.

Gershom patted the lifianstone. "You've done your research well, Meg. I've had this block for three standards. Bought it back before the price became astronomical here. We've been dealing with four-figure inflation on Aasta—but then I expect that you know that, don't you? All my capital's tied up in this rock. There's something inside, waiting, but the dear Muse seems to find my company as unappealing as my former patrons do."

"So what do you do now?" She moved to a head-and-shoulders view, to catch the shrug she knew was coming: *you can't live with a person for three standards and not learn how he moves.*

He shrugged. "Very little. Very little."

It sounded painfully familiar to her. Toward the end of their relationship, he'd become this way: depressed, moody, pessimistic. The routine had quickly become tiring. She had not been able to stop thinking: *if I'd been given his talent, I wouldn't be wasting it.*

Meg took Gershom's place at the window, letting the holos film moss-hung hillocks and the few straggling trees. Toward the horizon was the low, unhealthy emerald-green, irregular bulk of the Low Forest.

She thumbed off the holos. The ghosts in her head died.

"You don't change, do you?" she said.

"Why, I believe I detect a certain censure in that," he replied brightly. He struck a pose, leaning fully against the stone and daring her to continue.

Once, she might have. At the moment, it didn't seem worth the pain. Meg cursed the whim and the remnants of affection that had made her come here. *You've enough to do on Aasta without playing his game.*

She went to the door. Before she could step through, Gershom spoke.

"It was never anything real between us, Meg. It was just a romance directed by the cameras—a performance. That's all. We were following the script they gave us."

She wanted to retort. She wanted to scream all the fury in her head. The emotions choked her throat, and Meg breathed a sound that verged on a sob. But she didn't want him to see that he could still hurt her so easily.

She took another step and closed the door quietly behind her.

Meg told Walser about her meeting with Gershom that night. Walser was a vague shape in the darkness of the room, a warmth along her right side.

"If you knew that seeing him again would bother you, why'd you go,

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Meg?" Walser's voice was low, a growl of fatigue. They'd had a long day—not long after she'd left Gershom, a report had come to her office that angry farmers were storming a government building on the southern continent. That had sent Meg, along with most of the other reporters, scurrying for transportation. The reality had been nothing but some shouting and a few thrown rocks. Walser had been there, working for rival network. Meg and he had been lovers once, a brief affair, and they'd managed to part while remaining friends. They'd hired a flitter back to AastaCity together, spending the time talking.

Walser was comfortable, non-threatening. She'd asked him to stay.

"Why'd you look him up?" he asked again.

Meg cradled her head on his shoulder; his arm went under and around her. "Thought it might make a nice little segment. You know, a romantic sideline to all the nastiness."

"That's how you rationalized it."

"I'm not sure why I went."

"*That's* not much of an answer at all."

"It's about all I have," Meg said.

Walser said nothing. Meg knew he was waiting. His chest rose and fell slowly under her. "Okay," she said finally. "I'll try to sort it out a bit. Gershom and I never really had a chance to settle our relationship. Things were always hectic, busy, stressed; there were always other people around. I don't think I actually left *Gershom*, you see, but rather what his life had made him become."

"You wanted to see if the spark was still there." Walser chuckled deep in his throat, and Meg pushed at him.

"Leave out the sarcasm, Walser. Yes, I loved Gershom. And yes, maybe I wonder if I still have feelings for him. Mostly, though, I was hoping that we could still be friends."

"And can you?"

The question seemed to hang luminous before her. She shifted against Walser, her eyes staring upward to the shadowed ceiling. "He was strange. He's mixed up with the politics here, just as he was back then. He didn't say so, but I know him."

Walser stirred. His voice was suddenly more alert and she could see the gleam of reflected streetlight in his eyes. "He knows the insurrectionist movement? Maybe he could put us in touch with the factions behind the violence."

"Walser . . ."

"Meg, look to your work. What's the matter with advancing your own interests?"

She didn't answer him directly. "Gershom said something before I left

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him. He said that our romance was nothing but a holo script. There's a grain of truth to that."

"Which means?"

"I have to be careful how I move with him. I don't want him to think that I'm just using him to get to a story. And I don't want Gershom trying to use me as an access to a wider forum."

They lay together for a while then, cuddling. Meg had almost fallen asleep when Walser whispered again. "I don't think you have much to worry about. From your description of the meeting with Gershom, I don't think he'd care to see you again."

She sighed, remembering.

"No, I suppose not," she said.

The day after the government of Aasta failed to make even an interest payment on the '98 bond, Dr. Aaron Hinda-Weller, the Alliance's representative on Aasta, called a press conference.

Making her way to the Diplo Center, Meg saw the outskirts of the crowd from across the Central Square. There, also, alone in the center of the stone-flagged area, stood the *Niffleheim Comedy:* Gershom's sculpture, presented to AastaCity when he had arrived on the world. Meg stared at it, against the backdrop of gray clouds and the Center. The *Comedy* was a collection of buffoon-like figures stumbling and falling as they groped at one another. The faces were stark, the features exaggerated like caricatures, and too close in resemblance to high political figures in the Alliance: the *Comedy* had begun Gershom's fall from fame. He was reviled by the critics for this sculpture—as if, Meg had once suspected, everyone had been told that it would be in their best interests to dislike this particular piece. The soundsculpture moaned in the wind, the figures hooting idiotic, nonsensical syllables into the air.

Meg had liked the *Comedy* from the beginning. She found that it still stirred her.

But it was Gershom. And their unhappy marriage. She shook herself from reverie and went into Diplo Center.

The hall was structured as were most Aasta'an buildings: long and low, spreading over much reclaimed marshland so that the building would not collapse in heavy rains. On a world of only a few million people, such land-wasteful architecture could be tolerated. The hall had a look of deep perspective that compacted the people in it.

Meg, who had grown up with the style, now found it claustrophobic.

Hinda-Weller was by now a familiar face to anyone watching the Aasta'an holocasts. Hoary, with a rough-sculpted face shadowed by an overhanging brow, he was hopeless from the viewpoint of public relations. It was impossible to make him appear friendly, though in truth he was

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a gentle and easy-going man. When he concentrated, he scowled; when he smiled, he leered; his laugh had a false edge. Despite his brutish appearance, he was kindly and modest. All the reporters stressed that, but they couldn't alter the face in the holotanks. The general consensus among Meg and her peers was that the Alliance should have chosen someone else.

Yet Hinda-Weller had been the choice of Niffleheim. Those who didn't know him were put off by his looks and manner; those who knew better were still wary of his ability to handle a crucial political situation. Hinda-Weller's reputation was as a humanitarian, not a leader. Perhaps that was the rationale behind the Alliance's choice.

Meg had the holos on at the limit of their range. Other sets of cameras drifted above the crowd that packed the hall. She could discern no individuality in that lemming-mass. The people were simply a random sprinkling of color. Second-sight, her holos showed her the dais from which Hinda-Weller would speak. She panned from the stage to the crowd, zooming in on the ring of armed security people against the walls and around the podium area.

There seemed to be a great number of them. Which meant that someone else felt the undercurrent of hostility in the room.

Hinda-Weller, smiling overmuch to the crowd, stepped onto the dais. An angry muttering greeted him. Meg focused on his deep, shaded eyes. A hand splotched with years came up to brush the forest of his eyebrows.

"Not what you call a friendly audience, are they?" a voice said behind her.

"How's it going, Walser?"

They spoke without turning to each other, concentrating on the inner camera-vision. There, for Meg, Hinda-Weller shook hands with Aasta'an officials.

"Hinda-Weller's made quite a show of security," Walser said. "He'll need it, too."

Now Meg looked over her shoulder. Walser's mahogany face looked back at her blandly, eyebrows raised. "What do you know that you're not telling me?" she asked.

"A source is a sacred trust—" he began, then Hinda-Weller stepped to the podium. He cleared his throat and the sound reverberated through the hall.

"All of us are people of the Alliance," Hinda-Weller said. It was not a good opening—the muttering in the hall swelled against his amplified voice. Meg began to fear that Walser's source might be accurate. "We share a common agony here on Aasta. The failure of this world is a failure of the Alliance. It does not reflect on any of the individuals here

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who have labored so long and so hard. The roots of the current difficulties are, umm, locked in shadow."

Hinda-Weller said the last phrase with a hesitation; aware, perhaps, that he sounded pompous and awkward. Meg shook her head in sympathy.

Hinda-Weller's scowling visage looked up from the prompter, and a dozen identical heads raised themselves in holotanks spaced around the room. He looked the image of an old and wrathful god. "The decision was difficult. It pleases no one, but is, I am afraid, forced upon us. It seems obvious that additional funds channeled to Aasta would be a stopgap measure doomed to eventual loss."

He paused, and Meg and the rest waited, knowing what was coming. The low rumble of the crowd had ceased. The silence was intense, the air heavy. Meg felt a touch on her shoulder: Walser. He nodded toward the edge of the stage where the security had moved closer to Hinda-Weller. Meg pulled her holos back from the man and sought the crowd again. Empty, expectant, and angry faces swept past. She was well past one of them before she recognized him. Gershom. Meg panned slowly back toward Hinda-Weller, but she did not see Gershom again.

"I've been given instruction by Alliance Center on Niffleheim." Hinda-Weller's voice boomed. "After appraisal of all pertinent information and considering the forfeiture of the '98 bond, the decision has been made to disenfranchise Aasta. All Alliance citizens will be relocated at Alliance expense, after which—"

Hinda-Weller still spoke, but his words were lost in a roar that birthed and swelled from the thousand throats before him.

Chaos was loosed.

In a fountain of hissing sparks, a holotank was smashed. The security forces rushed forward. They had Hinda-Weller offstage before the mob surged over the dais. All was pandemonium. Walser, a look of strange glee on his face, whipped his holos in and out of the enraged crowd; Meg had taken hers to a wide-angle view. Another holotank died in fury. The room seemed to shake with screaming. There were scattered fights across the floor. Meg thought she saw Gershom again, and she moved her holos closer—Gershom stood, shouting, fist upraised.

"Come *on*, Meg. Kill your holos and let's get outside. We've all the footage here we'll need."

"I can't. I saw Gershom."

"To hell with him. *Outside!*"

They both began backing slowly toward the exits. Meg watched the overlapping images of holos and eyes: Gershom, and the crowd spilling onto the stage; Gershom, and confused people on the outskirts of the riot scrambling away from the violence; Gershom . . .

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And they were outside, the holos bobbing tardily afterward. They rested in the shelter of the *Niffleheim Comedy*.

FADE IN: to logo *REPORT: AASTA*. (bg music: Hagee's "Overture to Thaukt")

DISSOLVE: to Megen seated behind a desk liberally spread with flimsies. A monitor is prominent to her left, while behind and to all sides is a hologram of the Low Forest in midday (and rare) sun. Her head is down, gazing intently at the monitor. BG MUSIC FADES. Megen looks up, smiles into camera.

"Good day. This is Megen Welte reporting on the Aasta'an crisis."

Pause. A glance down at the printouts.

"Early this afternoon, Dr. Aaron Hinda-Weller, head of the Alliance Diplo Team, revealed that Alliance Center had ordered Aasta evacuated of Alliance citizens. The announcement was made publicly in Diplo Center here. This was the scene, as I filmed it."

CUT TO: holofilm of Hinda-Weller stepping onto the dais. Tight on his face as he makes the announcement. Then the flurry of disturbances as he is hustled away. VOICE OVER.

"As you see, there was violent reaction to that announcement. Diplo forces quickly restored order, but it is plain that many on Aasta are not happy to be forced to leave."

CUT TO: Megen. Head and shoulders. Pull slowly back to reveal the Low Forest gone, replaced by swamp riders picking berries.

"Hinda-Weller, in a private conference a few hours later, reiterated that no one who wished to remain behind would be made to leave, but that any who did so would be renouncing Alliance citizenship and faced a bleak prospect of semi-isolation from human society. No Alliance ships, he said, would stop in the Aasta'an system as there was no profit to be made here. Decades and perhaps centuries might pass between contacts. Those left here, Hinda-Weller said, face a slow, private, and painful death."

She looks seriously into the camera. "In this reporter's opinion, Dr. Hinda-Weller is perhaps overly dramatic, but essentially correct. Given the Alliance's decision, the only sane course is to bid goodbye to Aasta and let the Alliance place the people elsewhere. This is a sad ruling Niffleheim has made, but I feel it is the right one. It will be a detriment to lose Aasta, but we have lost only her swampy ground, and there is better soil elsewhere to be had. Aasta's real treasure is her people, and those the Alliance will keep."

Now a smile replaces the serious frown. Her face, tinted with a heat sensitive dye, changes hue subtly. Mouth-glitter scintillates into the camera.

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"There are many people here worth saving. A few days ago I visited the studio of Gershom d'Vellia, whom some of you will remember as the talented sculptor whose rise to fame was as meteoric as his fall."

CUT TO: holo of Gershom's studio. BG MUSIC UP: soft dirgepipes.

VOICE OVER: "D'Vellia, if you recall . . ."

"Looked good, Meg."

She nodded and smiled to Carl, the engineer, and left the studio. The hallway outside was deserted—they'd taken over the facilities of a bankrupt local station. The doors she passed were grandly labeled: failed hopes. There was no "Director of Programming" or "President of Operations." If they were smart, they were already on some other world.

Meg paused at "Library." She'd noticed the door before, had passed it many times each day. Now a whim took her. She tried the handle.

The door opened. She turned on the lights.

The racks of visidots and holocubes were full and seemingly in order—she knew that Carl had pawed through them, looking for stock shots for the reports. Most of the dates were fairly recent. Megen moved to the back of the room.

She found what she was looking for in a dusty crate in the corner. She was surprised that the clip had been kept. KYLE WELTE, it was labeled in a small, neat hand. SUICIDE.

Daddy.

Carl seemed surprised to see her walking back into the studio with the visidot. "Ahh, Meg, not something else *now*—" he began. He stopped. His eyes narrowed. "You all right?"

"Yah. Look, Carl, would you mind if I ran this?"

He didn't hesitate. "Sure." Sensitive Carl. "No problem at all. Uh, you want company?"

Meg considered that, shrugged. "No, I don't think so. If you don't mind . . . ?"

Carl nodded, gathered stray notes and loose holocubes, and made his departure. Meg placed the visidot in the viewer, switched on the flatscreen. For a long minute, she held a forefinger over the contact. Almost, she could not press it.

But she did.

It began in the middle. The film was discolored and scratchy. Her father lurched into motion, thinner and younger than she remembered him, the dark eyes hollow pits in a face drawn drum-tight over his cheeks. She could see the back of the interviewer's head. Kyle Welte blinked into the camera, nervous. His voice was high and thin.

". . . .can't. I used'ta say to my kids here that you can't give up." The camera panned jerkily, showing the uncertain smiles of two young chil-

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dren, a boy and a girl. She was a frail waif, her hair tangled and disordered, a muddy stain on one cheek. Meg caught her breath at the sight. Then the scene shifted and the girl was gone. "I tried too hard and too long. I don't think that way no more," her father said. "There's a time when you *got* to give up, when it ain't worth your pain, when you realize that there ain't nothing left for you."

He blinked again. His lips pressed together and Megen thought he was going to cry. The person on the camera evidently thought the same, for he zoomed in on the despair twisting her father's face. Bleak eyes looked away and back, a sleeve brushed at them.

"Do you see any solution to your problems, Kyle?—your problem *and* Aasta's problem?" The interviewer's voice was professionally sympathetic.

"For Aasta's problems? No. For my own? Maybe. Maybe." He glanced away from the camera and Meg knew that he was looking at her and her brother. "I hope they'll both forgive me for it, too. I'm sorry, Meg, Tom. I do love you both."

The next few seconds were chaotic. There was a gun in her father's hand, the scream of the reporter, a jostled camera as people scrambled. Tom shouted, Meg shouted. The scene was not as she remembered it. It was worse.

Sounding tinny and unimpressive, there was a shot.

Several minutes later, she felt a hand on her shoulder. "Pretty bad, huh?" Carl said.

Meg looked up at him and tried to laugh. She couldn't; she sniffed back tears. "Bad enough. Yes."

Carl looked at her strangely, then at the snow on the flatscreen. "You want me to get rid of it?" he asked.

She shook her head. "I'll be fine. I'd like to keep it, anyway."

"Something we can use?" She knew that he wanted to touch her, to give comfort, but he seemed uneasy. He seemed to decide at last that a hug would be too intimate, because he crossed his arms and nodded to the editing equipment. "We can review it again, if you want."

Not-so-sensitive Carl. Meg suddenly wished Walser were here; he would have known.

"No thanks." Meg brushed at her eyes with the back of her hand, and sniffed again. "It's nothing for us. Thanks, Carl. It's just some old memories. That's all." She took the visidot from the viewer and placed it in her pocket. "Look, I'll see you tomorrow."

"Right."

As she was about to leave the room, Carl turned from his equipment

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and shouted back to her. "Hey, Meg! I forgot to tell you. This d'Vellia called, wants you to call him back."

She stood there too long. "Did you hear me, Meg?"

"I heard."

"You gonna call him? I have the number."

"I suppose," she answered. "I suppose."

She asked him to come to her hotel room for dinner the next night. When Gershom arrived, he thrust a bottle of local wine in her direction. "You didn't need to," she began. "It's too expensive."

"I bought it a long time ago," he said over her protest. "In case I ever had something to celebrate."

"You have something now?"

He shrugged. "We'll see."

Meg stepped aside. Gershom came in, glancing around and nodding. He went to the window and looked down—she was on the fourth and top floor, and that was high enough to overlook most of the ground-hugging Aasta'an architecture. She knew he could just see the *Comedy* a block over, giggling its manic laughter at the wind.

"I still like that piece," she said.

"Not many others did."

"It was too political for the time. You frightened the critics with it. Time's blunted the edge now—I'll bet only a few people could name all the faces in it—I once heard someone say that it would stand as your most effective sculpture."

He seemed to shrug. A mist beaded the window. "A pity they couldn't see that then. It might have done some good."

"Uh huh," Meg said. She sidestepped the implicit subject of Alliance politics. "Dinner's ready."

The food was plain but plentiful. There hadn't been much choice in the market to which she'd gone, but her Alliance scrip had been worth gold against the local currency. She'd stocked the table well.

Meg watched as Gershom ate—tentatively at first, then with unfeigned hunger. Their conversation through the meal was light and impersonal. At last Gershom pushed his plate back.

"I haven't eaten that well in four standards," he said.

"Good." Meg smiled. "Otherwise, you'd've noticed that my cooking hasn't improved. You were always the better chef."

"Cooking's an art. You have to put passion into it, Meg. You always thought of meals as fuel stops."

"I'm afraid I still do."

"You would have been a mediocre artist."

He stared at her, as if waiting for her to take offense. Meg leaned back

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in her chair. "I never wanted to be an artist. And I'm damned good at what I'm doing now." *Gently. He'll answer belligerence in kind.* Meg reached for her wine, sipped. "What'd you think of my segment on you, Gershom?"

"You were very flattering."

"I meant it."

He held up a hand. "You didn't let me finish. You also didn't say a thing about what I've been doing here."

"Politically or artistically? If you mean the latter, you haven't done anything to talk about."

She knew it was wrong when she said it. They'd both known that his reference had been to the current crisis and his involvement with the insurrectionists, but she'd wanted to shunt all that aside. Now she knew that she could not: *all you've managed to do is annoy him.*

Gershom's mouth had tightened. His glass had been in his hand. Now he set it down too hard. China rattled. "I can't produce on demand or to a schedule, Meg. I can't be switched on every night like *your* kind."

He shoved his chair back from the table, legs scraping against the floor. He strode back to the window. The food seemed to congeal in Meg's stomach, an indigestible lump.

"Gershom—"

"Damn it, Meg, what do you want here? Why did you come back to Aasta?"

She got up from the table, went and stood beside him, glancing down to the square and his sculpture. "I told you that the first day," she answered. "This was my birthworld. I didn't ask for the assignment; it was given to me, and I didn't care to refuse it."

"That's it?"

"Does it hurt your pride that I don't say that I came because of you, Gershom? Too bad." Her soft tone took some of the edge away from the words. Her hand trailed down his arm. "If you'd been somewhere else, I'd still be here. But because you *were* on Aasta, I had to see you."

"Then you're just like the rest of the media—carrion creatures feeding death down your audience's gullets." His voice was bitter. "You'll use the opposition to the Alliance because it photographs well, but you don't give a shit for the issues."

"That's not fair, or true."

"You don't see how seriously I—we—take this, Meg. The Alliance is all high-handed and righteous. They're paying attention only to their pocketbooks. It doesn't matter to them that Aasta is home to the people here."

"Most of the people here don't care that much, Gershom. Most of them will leave quite peacefully when the evacuation fleet arrives."

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"You're wrong."

"I'm not, and that's what makes you so angry. I lived here too, Gershom. My father would have been the first one on the ship if he'd been given the chance. I've seen the frustrations here. No, Gershom, they'll go. They'll go gladly."

"No!" He shouted the word. Cords stood out on his neck. Meg backed away from him, wanting to rage back. She looked down at the square, at the *Comedy*, and took a deep, calming breath.

"Do you remember Granthane Peidor's fete, Gershom? You'd just completed the *Niffleheim Comedy* for him, but *he* thought that he was just getting some beautiful new statuary to add to his collection. You remember his face when you unveiled the work, how horrified he was, how he screamed? Gershom, sometimes the presence of the cameras makes people act too strongly. You got up on Peidor's table and pissed in his punchbowl in front of all the guests. Tell me, would you have done that if the social columnists hadn't been there?"

She thought that he might become angrier. But Gershom smiled at the memory. "Would you have?" Meg persisted.

His thin shoulders rose, a shrug. "I don't know. Maybe."

"I've seen the same thing happen here. And sometimes, because of the attention you get, you even begin to believe that an issue is bigger than it might really be. You get fooled. *We* were fooled once, Gershom. Remember what you said to me in your studio? You made me think back on our marriage, and you were right. We kissed on cue, we embraced when they nodded, we even *fought* publicly. I wonder if we didn't do that just to retain the attention. I wonder if we knew each other at all."

"That's a little dramatic."

Meg echoed his shrug. "It's a little true."

He stared at her. She leaned against the sill, the window cool at her cheek. She gazed at the flagged pavement of the street.

A hand covered hers. She didn't turn, but neither did she move her hand away. "I wish you weren't involved in this Aasta'an mess," she said. "I wish that I wasn't afraid that you are willing to see me just because you think you can use me."

His hand moved convulsively. Meg thought that he'd pull back, but then he laced fingers with her. "Forget the politics, Meg. There's no script here."

"You're sure?"

She turned, and his eyes were dark and very close. "I'd like to ask you to stay a while, Gershom. But the idea scares me."

He smiled, and Meg knew that Gershom found the words flattering and that therefore he misunderstood them. It wasn't Gershom himself that made her fear intimacy, but the pain that closeness might bring.

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They were on the opposite sides of crisis: that would inevitably drive them apart. She knew it. It would hurt, and Meg did not want the pain.

She wanted to speak, but had no words. The mood was suddenly very fragile. She leaned closer to Gershom, and his arm pulled her the rest of the way. His hug was surprisingly warm and surprisingly gentle.

Meg reached up and drew his head to hers.

"I thought—" he began.

She stopped his words with her mouth.

There's a fascination to new romances—they spark, they flare, they consume all until familiarity drags them back to reality.

It was like that again for Meg. Three of the next five nights she spent with Gershom. The other two he pleaded that he had commitments he could not break. She didn't question him about them: she knew what they were. She knew because those were nights when she needed to cover "disturbances" in and about the city. Once she thought she might have glimpsed Gershom in the confusion and darkness of the protests, but she could not be sure.

Gershom didn't volunteer information; he didn't talk politics again. Meg avoided the subject as well, knowing perhaps that the topic was not a safe one for them.

It was better that way, she told herself.

This evening they had said little enough of anything. Gershom had been tired and late and affectionate. Now Meg cuddled against him, one leg drawn up and over his body. "Are you sorry, Gershom?"

"Hmm?"

"Sorry that I sought you out, that I came to your studio that day."

He laughed. "Is that supposed to be rhetorical?" His hand trailed down her spine, fingers kneading softly. "It's been a good few days, Meg. I'd forgotten what you were like."

"Thanks."

Again, that quick laugh. "You know what I mean. On the whole, we always worked well enough together. Sometimes I used to think that it was just circumstances that stopped us from working out our problems."

"I've wondered that myself. But I've been realistic about it, Gershom. We've changed a lot since then, as well. Maybe that could make a difference."

"I think it might."

Meg did not reply, and Gershom said nothing for a time. Meg had closed her eyes, half-dozing, before he spoke again.

"Meg, I wish you'd work with me for Aasta."

"Gershom—"

"No, listen." He rolled underneath her, so that they were face to face

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in the bed. "You know the persuasive power the holocasts can have. I'd like to see some of that potential used to convince the Alliance that Aasta needs another chance. That's hardly asking much—just for compassion and understanding of how it feels to be wrenched from your home."

Meg rubbed her eyes, shaking her head. She felt herself to be on the edge of anger, and her words were clipped, curt.

"Aasta has had an abundance of chances. What good's another one?"

"What is good about pulling people from their own land, or of leaving behind those who refuse to leave? What kindness is there in that?"

"Gershom, the Alliance has bent over backwards to accommodate everyone in this. If a small group of fools insist on staying, that's their own mistake. The Alliance will relocate all those who leave. There's no loss there, not for the Aasta'ans. You'll just have to accept the fact that I've not a whole lot of sympathy for your group of troublemakers."

"So you're biased, just like the rest of the people in your medium."

Meg's anger flared then. She rose to a sitting position, the sheet falling around her waist. "*Damn* you, Gershom! That's about as stupid an accusation as I've heard. Show me *one* instance of biased reportage, and—"

"Hey!" he interrupted, shouting back at her. "All I'm saying is that people want to stay here, and those that do are being left to starve."

"We don't agree on that. We *won't* agree on it. All we're going to do is argue. We agreed to leave politics out of our relationship here."

"I *care* about these issues, even if you don't."

"Will you *shut up* and listen to me!?"

"No, I won't, Meg. This has been bothering me for days. We wanted a real relationship because the last one was a 'script'—but *you* won't talk about anything but trivialities. How real can that be?"

She began an angry retort, stopped. Tried again, wordlessly. It had all turned sour. She was struck silent; there was nothing for her to say. Inside her head, the argument raged on: she could speak in Gershom's voice, could make all the accusations and counter-accusations. All the unanswerable questions . . .

So quick. So quick to be ruined.

Gershom felt the change as well. From twilight his voice came. "Maybe it'd just be better if I left, Meg. Neither one of us really wants to argue now. Wait until morning, then we can talk."

She knew that she shouldn't agree to that. Afterward, she would say that she had just been too tired of it all. Sitting, hands palm up on her lap, she nodded. "That might be a good idea."

The bed moved as he got up. She listened to him fumbling with his clothes. Tears had started down her cheeks, and she wanted to brush them away, but she didn't move. She listened to him walk across the room.

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"Goodnight, Meg," he said.

She didn't answer. The door opened, closed softly behind him.

Gershom did not call the next morning. Meg did not call him.

The next night, Alliance ships dropped into real-space on the outskirts of the Aasta'an system. A howling, bellicose mob gathered before Diplo Center. Meg and Walser were there with the rest, the holos sweeping over the scene. For a moment, Meg thought she saw Gershom in the midst, fists upraised—though she panned back, he was gone. Then the local police force slammed into the ranks of protestors, and events became confused.

Later, in her room, she thought of calling his studio to see if it had been him, if he was unhurt. Her fingers brushed the phone, but she couldn't pick it up.

She went to the studio a few hours later and, with Carl, edited her film. After the broadcast, she called the city's hospitals. Gershom was not among the injured.

The ships came, dropping into orbit a week later.

Meg was never certain how or why the final riot started. She wasn't aware of any gathering that was to take place that night: the press was generally "invited" to such things. She was sleeping when the phone burred. She slapped at the response button, eyes half-open.

"What?"

"Meg?"

"Yah." She rubbed her eyes, sitting up. It wasn't until she saw the face in the viewer that she realized that she was disappointed. "Oh, Walser. What the hell time is it?"

"Late," he said. "Look, I can't talk. Get down to the square, and bring your holos. And don't ever tell my network that I called you."

He was gone in a flurry of static.

Meg lay back, yawned, then forced herself from the bed. She dressed, unpacked the holos from their cases. Pawing at her sleep-crusted eyes, she ran from the room, holos bobbing behind.

Outside, the streets were chaotic. Dark, rushing figures swept by like wraiths, flitting past the scattered streetlamps. Broken glass grated underfoot, glinting in the darkness. Most of the lamps in front of the hostel were broken, and the fronts of the nearby buildings were dark.

Nearby, a man's voice screamed, loud and sudden.

A young boy came from a night-wrapped doorway, running. He stumbled against Meg, and she heard his ragged breath loud in her ears. His hands clutched her blouse, then with a barking laugh he pushed her away before she could react.

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A face stared down at her from a window across the street, impassive.

There were other sounds: a monotonous cursing that had the semblance of a chant, sirens echoing between buildings, a dull thud that might have been a fist hitting flesh. Meg half-ran, half-walked to the square. She felt removed from reality, felt that she moved in the morass of a dream.

As she approached the square, she found the crowd. There were more signs of destruction—a building seemed to be on fire in the next block, and the faces about her had a look of gleeful ire. She turned on her holos, immersing herself in the doubled wave of faces, letting the currents of the mob carry her.

In the square itself, people were everywhere. There was a constant din, a wordless roar that ebbed, swelled, and receded again. Meg found herself near the *Niffleheim Comedy*; she backed against the sculpture and used it as a shield against the buffeting masses. She let the holos become her eyes as she stood blind and motionless in the sulpture's lee.

From above, she stared down, seeking a nexus, the heart of the trouble. Someone glanced up, gestured, shouted. Others stared. A rock arced past, narrowly missed the lens of a holocamera. Meg took the trio of cameras higher, to the limits of the mag-field, and switched on infrared filters and lights.

She recognized no one in the crowd. The center of the disturbance seemed to be Diplo Center. There, the crowd was massed, all the heads facing to the building. Adding to the certainty, she could see Walser's holos swooping nearby. She moved the dish antennae, switched to telephoto.

And saw him.

Gershom stood at the head of the crowd before the barred and shielded doors of the Center. A voice, amplified through a pocket horn, hurled slogans and curses at the windows. Behind the transparent shield-doors stood Hinda-Weller: an angry, hoary figure.

Meg cursed. She was not near enough, could move the holos no further toward the confrontation. She had to be nearer the Center herself. She pushed back into the mob; listening, watching.

"Please, please move back. The doors are shielded, and I don't wish anyone to be hurt. Please move back." Hinda-Weller spoke calmly enough, though his furious scowl contradicted the even tone. Through the holo's speakers, his voice had a weak, treble edge.

The man with the horn—not Gershom, though the sculptor stood beside him—scoffed. "We intend to enter the Center. It was given to the Alliance by Aasta, and now we would like it back. Look out here, Hinda-Weller. You can't stop all of us. Disarm the shield if you truly want no one to be hurt." The man was not an effective speaker. There was a giddy

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bravado to his voice. But the crowd, already in a hostile mood, reacted with shouts and jeers.

(Meg shoved her way between two people in the midst of the square, skirted a fistfight, and stumbled over a body with an ugly gash in the back of blue-tinted hair. Blood had smeared the bodypaint. A small pool of mingled blood and paint purpled the flagstones.)

"We don't need martyrs here," Hinda-Weller shouted back. Behind him stood a complement of security people—Diplos. From their stance and demeanor, Meg knew that there would be death if the crowd forced its way forward.

Gershom turned and faced those behind. His voice was harsh, hardly audible above the noise. "What did you expect? The Alliance won't listen when—" The man with the horn spoke again, drowning out the voice.

"You'll have your martyrs if that's the only way we can make the Alliance listen!" the speaker shouted.

Though she continued recording, Meg no longer heard the words. She felt helpless, listening to him working the crowd into a final destructive frenzy. She brought the holos down, focusing on the leader but always with Gershom in view.

Like a preacher exhorting his congregation, the speaker formed the mob. The words were unimportant, simply vehicles for the emotions they carried. Gershom's face was suffused with rage. The holos nudged closer, finally sliding away from the leader and toward Gershom. He looked up and saw them. He pointed. Hinda-Weller's voice shrilled in the background, making a babble of all speech.

The crowd swayed forward, hesitated, stopped.

(A rock came from the mass and this time found its mark. Vision shattered like crystal; the holographic image died. Meg was suddenly contending with two flat camera viewpoints, her own sight, and a fireworks display of painful static. She was pushed from behind and fell.)

She lashed out at the legs around her, shutting her eyes. Fumbling with the control unit at her waist, she shut off the damaged holo and one other. Abruptly, she could see again.

The crowd was restless. One final push and they would rush the Center. Hinda-Weller stood there, adamantine, but the Diplo guards had moved back in the corridor behind him. Gershom glanced up at the holocamera, then at the building.

Meg stumbled to her feet. The noise level was incredible—not just from the earphones, but all around her. It seemed that everyone was shouting, as if the Center could be brought down by the assault of several thousand throats.

And the inevitable surge came. Gershom was in the fore. Meg brought the holo down: down, with Gershom growing larger in her head; down,

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as Gershom turned to glance again at the sky, prescient. She could see his mouth moving. Then his face rose above the lens. A quickly-growing patch of cloth became an explosion in Meg's head as the holo hit Gershom and knocked him from his feet, carrying him from the direct path of the crowd.

Meg screamed in pain, joining her voice to that of the mob. The shields went down in a wail of agony.

They tore the Center apart. Hinda-Weller, the mob's speaker, and the first six of the crowd's vanguard died with the shields.

Meg saw Gershom once more, as she was preparing to board a shuttle to the evac-ships. In the wake of the riot, opposition to the Alliance seemed to have collapsed, as if in that last outburst some catharsis had been reached. The populace filed quietly, even meekly aboard the ships.

Meg noticed Gershom before he glimpsed her. She was filming a family waiting for the shuttle. They stood disconsolate, surrounded by the piled remnants of their lives. Gershom came from behind a floater burdened with clothing, turning his head from side to side, walking slowly. Meg turned off her holos, and stood silent. Gershom set his mouth in a frown and strode deliberately toward her.

Meg smiled wanly. "I'm too tired and busy to argue, Gershom."

"What do you want me to say, then?"

"I think I might have saved you from doing a very stupid thing."

"Do you want a thank you for that?"

"It'd be a nice start."

He nodded, but didn't say anything. A cart loaded with furniture rumbled by them; a longshoreman with a monitor scrolling figures along the back of his wrist shouted instructions to his crew. As if seeking an excuse to continue the silence, Gershom waited until he had moved past to speak.

"At first I was angry, Meg. Furious. Then I figured it wouldn't do any good to stay that way. It was over."

"Your sacrifice wouldn't have done any good, either. Look around you—so much for noble sacrifice."

"I'm working again."

Meg raised her eyebrows in genuine surprise. "Really?"

"I started a piece after the riot, with my chest all bruised. I wanted to feel the chisel in my hand again. Maybe I feed on destruction. Maybe that's why I'm staying here." He smiled, but it was directed inward, not at Meg.

"Gershom . . ." She didn't know how to say it. Tact had fled with the lack of sleep. "Please don't be stupid again. What good is it to stay here?

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There'll be no audience for your work. The ships won't be coming to Aasta anymore—there's nothing here for them."

"Maybe that'll change."

There was a general movement toward the gates. The family she'd been filming walked past them as a siren wailed distantly. A voice on the intercom mumbled directions. "I have to go, Gershom," she said. She walked away from him, trying not to show the struggle in her mind. Even though she knew the attempt to be futile, she wanted to turn and try to obliterate rancor with words. Rushed regrets.

Finally, with the fens of Aasta steaming before her, she stopped. In the scene in her mind, she would turn, the words on her lips so that he could go back to the marshes with her explanation.

But he had, of course, gone. ●

MARTIN GARDNER

(from page 87)

SECOND SOLUTION TO SEX AMONG THE POLYOMANS

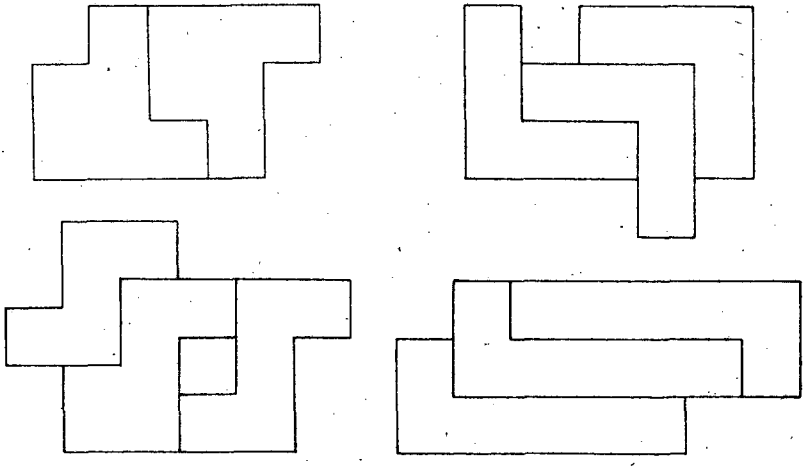

Figure 4

Solutions to the four problems are shown in Figure 4. These patterns, generously supplied by Dr. Matsu, are only warm-ups for three more

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difficult tasks. They will not be answered. Eventually you should be able to solve them, and giving the solutions now would spoil your pleasure.

In Figure 5 left, divide the T-shaped animal into four identical 5-cell creatures.

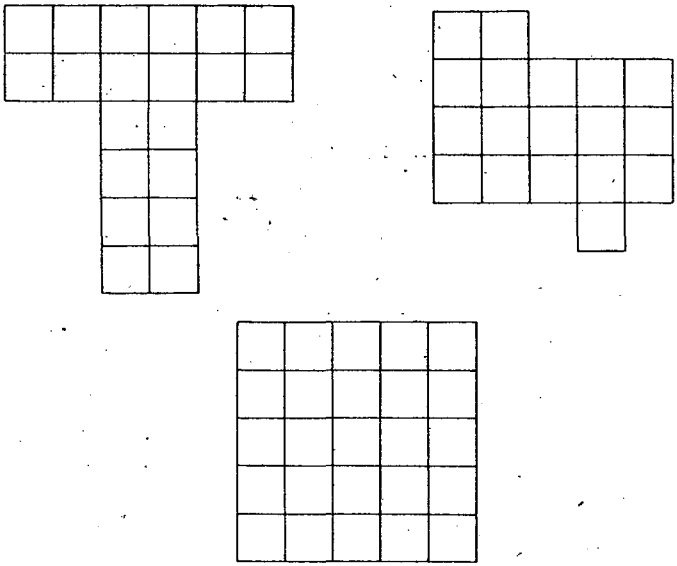

Figure 5

In Figure 5 center, divide the shape into two identical 9-cell animals. This is the toughest problem of the three. Please—don't write for a solution! I guarantee there is one.

In Figure 5 right, cut the square polyoman into five identical 5-cell animals.

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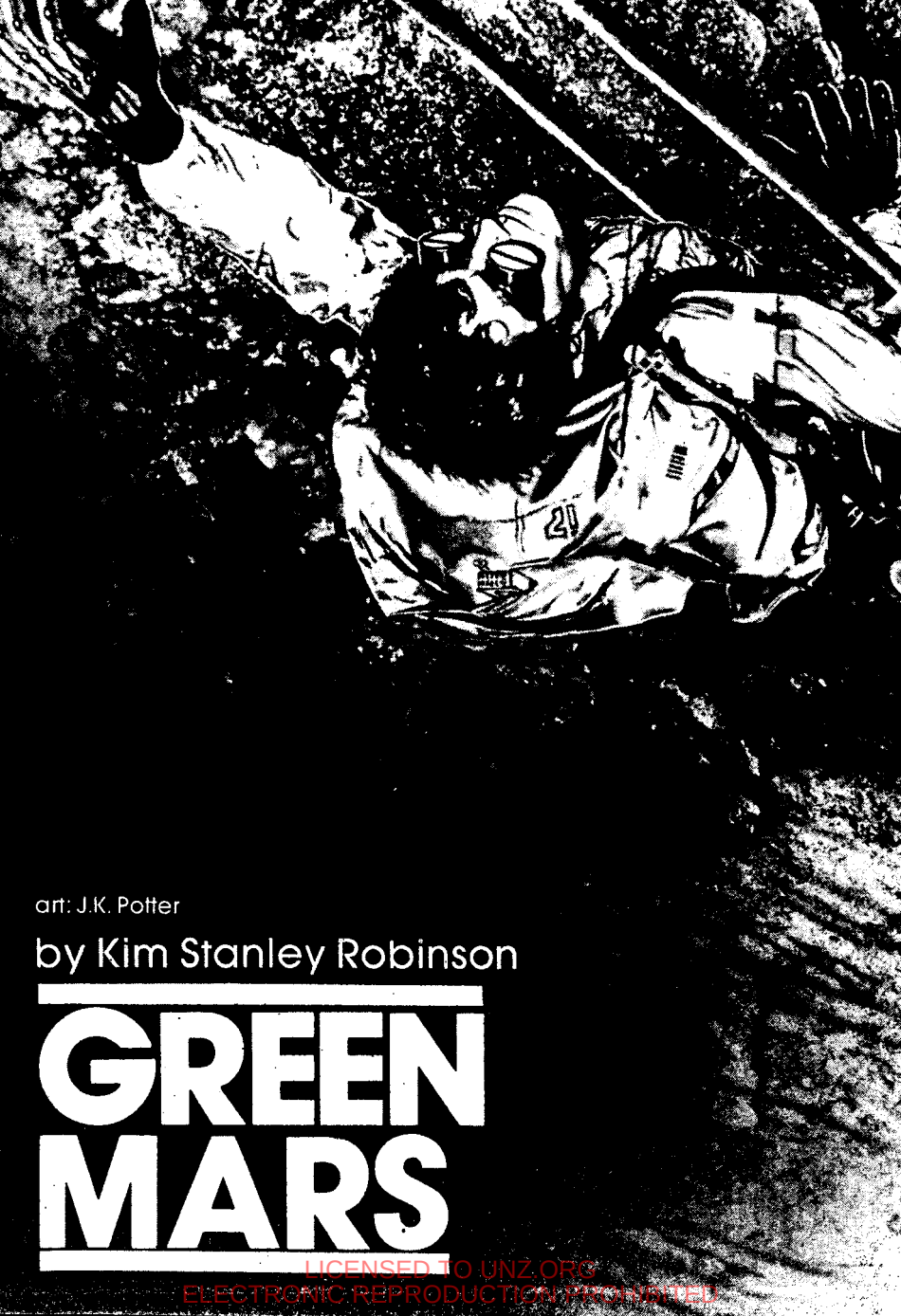

art: J.K. Potter

by Kim Stanley Robinson

GREEN MARS

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Kim Stanley Robinson won the 1984 World Fantasy Award for his novella, "Black Air." His first novel, *The Wild Shore* (published as an Ace Special in 1984), has thus far been nominated for both the Philip K. Dick Award and the Nebula Award. A new novel, *The Memory of Whiteness,* will be published by Tor Books in October, and his story, "The Lucky Strike" (also in the running for the 1984 Nebula), will be reprinted in Gardner Dozois' *Best SF of the Year* anthology. "Green Mars" marks his first appearance in *IAsfm.*

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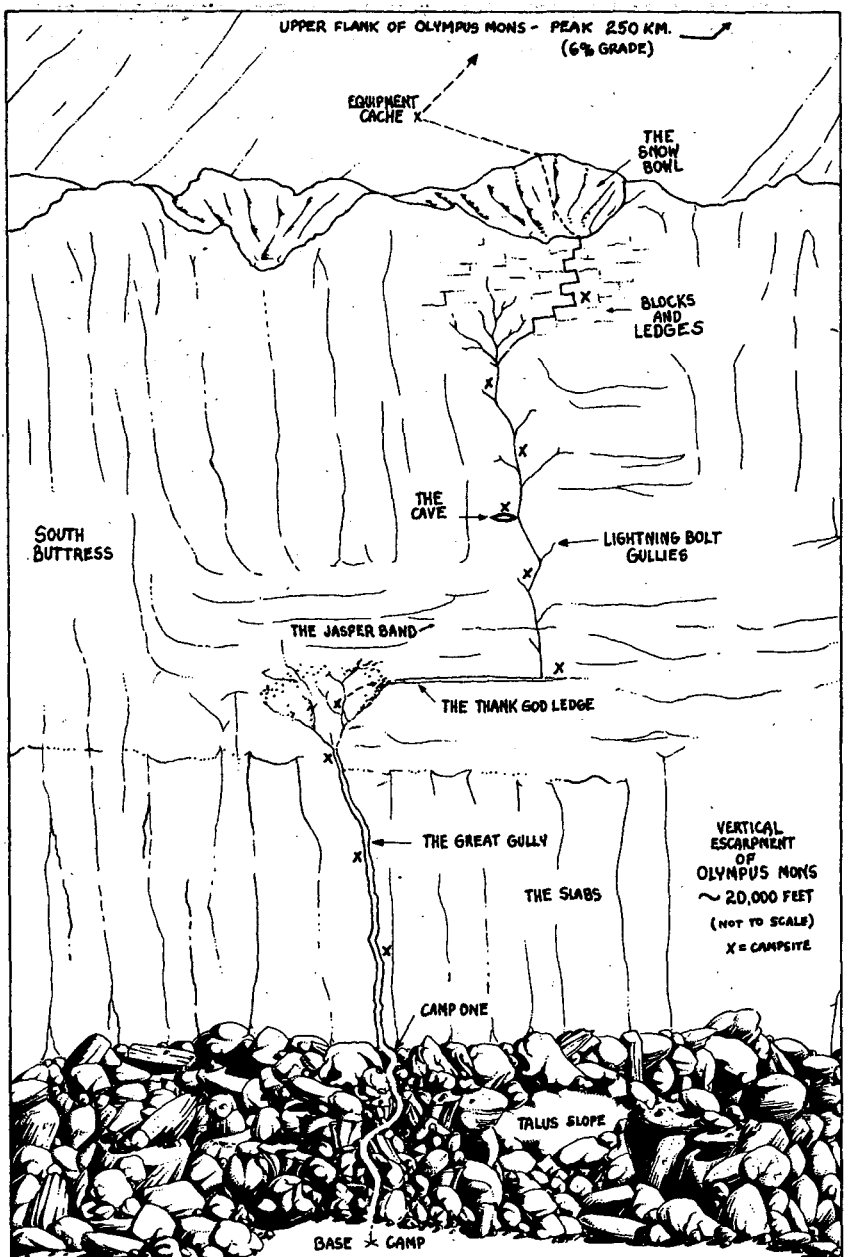

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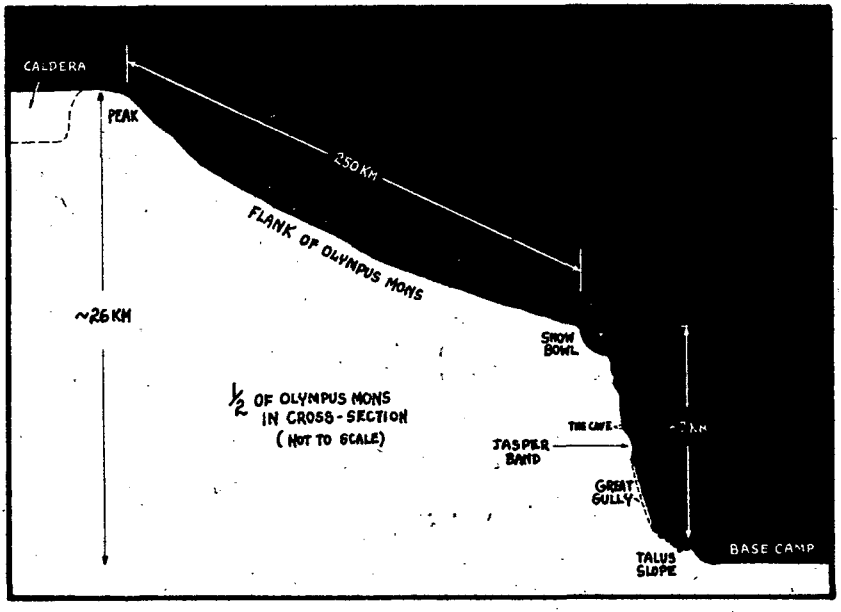

Olympus Mons is the tallest mountain in the solar system. It is a broad shield volcano, six hundred kilometers in diameter and twenty-seven kilometers high. Its average slope angles only five degrees above the horizontal, but the circumference of the lava shield is a nearly continuous escarpment, a roughly circular cliff that drops six kilometers to the surrounding forests. The tallest and steepest sections of this encircling escarpment stand near South Buttress, a massive prominence which juts out and divides the south and south-east curves of the cliff (on the map, it's at 15 degrees North, 132 degrees West). There, under the east flank of South Buttress, one can stand in the rocky upper edge of the Tharsis forest, and look up at a cliff that is twenty-two thousand feet tall.

Seven times taller than El Capitan, three times as tall as Everest's south-west face, twice as tall as Dhaulagiri wall: four miles of cliff, blocking out the western sky. Can you imagine it? (It's hard.)

"I can't get a sense of the scale!" the Terran, Arthur Sternbach, shouts, hopping up and down.

Dougal Burke, looking up through binoculars, says, "There's quite a bit of foreshortening from here."

"No, no. That's not it."

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* * *

The climbing party has arrived in a caravan of seven field-cars. Big green bodies, clear bubbles covering the passenger compartments, fat field tires with their exaggerated treads, chewing dust into the wind: the cars' drivers have parked the cars in a rough circle, and they sit in the middle of a rocky meadow like a big necklace of paste emeralds.

This battered meadow, with its little stands of bristlecone pine and noctis juniper, is the traditional base camp for South Buttress climbs. Around the cars are treadmarks, wind-walls made of stacked rock, half-filled latrine trenches, cairn-covered trash dumps, and discarded equipment. As the members of the expedition wander around the camp, stretching and talking, they inspect some of these artifacts. Marie Whillans picks up two Ultralite oxygen cylinders stamped with letters that identify them as part of an expedition she climbed with more than a century ago. Grinning, she holds them overhead and shakes them at the cliff, beats them together. "Home again!" *Ping! Ping! Ping!*

One last field-car trundles into the meadow, and the expedition members already in the camp gather around it as it rolls to a halt. Two men get out of the car. They are greeted enthusiastically: "Stephan's here! Roger's here!"

But Roger Clayborne is in a bad mood. It has been a long trip for him. It began in Burroughs six days ago, when he left his offices at the Government House for the last time. Twenty-seven years of work as Minister of the Interior came to an end as he walked out the tall doors of Government House, down the broad marble steps and onto the trolley that would take him to his flat. Riding along with his face in the warm wind, Roger looked out at the tree-filled capital city he had rarely left during his stint in the government, and it struck him that it had been twenty-seven years of continuous defeat. Too many opponents, too many compromises, until the last unacceptable compromise arrived, and he found himself riding out of the city with Stephan, into the countryside he had avoided for twenty-seven years, over rolling hills covered by grasses and studded by stands of walnut, aspen, oak, maple, eucalyptus, pine: every leaf and every blade of grass a sign of his defeat. And Stephan wasn't much help; though a conservationist like Roger, he had been a member of the Greens for years. "That's where the real work can be done," he insisted as he lectured Roger and neglected his driving. Roger, who liked Stephan well enough, pretended his agreement and stared out his window. He would have preferred Stephan's company in smaller doses—say a lunch, or a game of batball. But on they drove along the wide gravel

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highway, over the windblown steppes of the Tharsis bulge, past the farms and towns in Noctis Labyrinthus, down into the forests of east Tharsis, until Roger fell prey to that feeling one gets near the end of a long journey, that all his life had been part of this trip, that the traveling would never end this side of the grave, that he was doomed to wander over the scenes of all his defeats and failures endlessly, and never come to any place that did not include them all, right in the rearview mirror. It was a long drive.

For—and this was the worst of it—he remembered everything.

Now he steps from the car door to the rocky soil of base camp. A late addition to the climb (Stephan invited him along when he learned of the resignation), he is introduced to the other climbers, and he musters the cordial persona built over many years in office. "Hans!" he says as he sees the familiar smiling face of the areologist Hans Boethe. "Good to see you. I didn't know you were a climber."

"Not one like you, Roger, but I've done my share in Marineris."

"So"—Roger gestures west—"are you going to find the explanation for the escarpment?"

"I already know it," Hans declares, and the others laugh. "But if we find any contributing evidence . . ."

A tall rangy woman with leathery cheeks and light brown eyes appears at the edge of the group. Stephan quickly introduces her. "Roger, this is our expedition leader, Eileen Monday."

"We've met before," she says quickly as she shakes his hand. She looks down and smiles an embarrassed smile. "A long time ago, when you were a canyon guide."

The name, the voice; the past stirs, quick images appear in his mind's eye, and Roger's uncanny memory calls back a hike—(he once guided treks through the fossae canyon to the north)—a *romance*, yes, with a leggy girl: Eileen Monday, standing now before him. They were lovers for quite some time, he recalls; she a student in Burroughs, a city girl, and he—off in the back country. It hadn't lasted. But that was over two hundred years ago! A spark of hope strikes in him—"You *remember?*" he says.

"I'm afraid not." Wrinkles fan away under her eyes as she squints, smiles the embarrassed smile. "But when Stephan told me you'd be joining us—well—you're known to have a complete memory, and I felt I should check. Maybe that means I did remember something. Because I went through my old journals and found references to you. I only started writing the journals in my eighties, so the references aren't very clear.

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But I know we met, even if I can't say I remember it." She looks up, shrugs.

It is a common enough situation for Roger. His "total recall" (it is nothing of the sort, of course) encompasses most of his three hundred years, and he is constantly meeting and remembering people who do not recall him. Most find it interesting, some unnerving; this Eileen's sun-chapped cheeks are a bit flushed; she seems both embarrassed and perhaps a bit amused. "You'll have to tell me about it," she says with a laugh.

Roger isn't in the mood to amuse people. "We were about twenty-five."

Her mouth forms a whistle. "You really do remember everything."

Roger shakes his head; the chill in the shadowed air fills him, the momentary thrill of recognition and recall dissipates. It's been a very long trip.

"And we were . . . ?" she prods.

"We were friends," Roger says, with just the twist on *friends* to leave her wondering. It is disheartening, this tendency of people to forget; his unusual facility makes him a bit of a freak, a voice from another time. Perhaps his conservation efforts grow out of this retention of the past; he still knows what the planet was like, back there in the beginning. When he's feeling low he tends to blame his generation's forgetfulness on their lack of vigilance, and he is often, as he is now, a bit lonely.

Eileen has her head crooked, wondering what he means.

"Come on, Mr. Memory," Stephan cries to him. "Let's eat! I'm starving, and it's freezing out here."

"It'll get colder," Roger says. He shrugs at Eileen, follows Stephan.

In the bright lamplight of the largest base camp tent the chattering faces gleam. Roger sips at a bowl of hot stew. Quickly the remaining introductions are made. Stephan, Hans, and Eileen are familiar to him, as is Dr. Frances Fitzhugh. The lead climbers are Dougal Burke and Marie Whillans, current stars of New Scotland's climbing school; he's heard of both of them. They are surrounded in their corner by four younger colleagues of Eileen's, climbing guides hired by Stephan to be their porters: "We're the Sherpas," Ivan Vivanov says to Roger cheerfully, and introduces Ginger, Sheila, and Hannah. The young guides appear not to mind their supporting role in the expedition; in a party of this size there will be plenty of climbing for all. The group is rounded off by Arthur Sternbach, an American climber visiting Hans Boethe. When the introductions are done they all circle the room like people at any cocktail party anywhere. Roger works on his stew and regrets his decision to join the climb. He forgot (sort of) how intensely social big climbs must be. Too many years of solo bouldering, in the rock valleys north of Burroughs.

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That was what he had been looking for, he realizes: an endless solo rockclimb, up and out of the world.

Stephan asks Eileen about the climb and she carefully includes Roger in her audience. "We're going to start up the Great Gully, which is the standard route for the first thousand meters of the face. Then, where the first ascent followed the Nansen Ridge up to the left of the gully, we're planning to go right. Dougal and Marie have seen a line in the aerial photos that they think will go, and that will give us something new to try. So we'll have a new route most of the way. And we'll be the smallest party ever to climb the scarp in the South Buttress area."

"You're kidding!" Arthur Sternbach cries.

Eileen smiles briefly. "Because of the party size, we'll be carrying as little oxygen as possible, for use in the last few thousand meters."

"And if we climb it?" Roger asks.

"There's a cache for us when we top out—we'll change equipment there, and stroll on up to the caldera rim. That part will be easy."

"I don't see why we even bother with that part," Marie interjects.

"It's the easiest way down. Besides, some of us want to see the top of Olympus Mons," Eileen replies mildly.

"It's just a big hill," says Marie.

Later Roger leaves the tent with Arthur and Hans, Dougal and Marie. Everyone will spend one last night of comfort in the cars. Roger trails the others, staring up at the escarpment. The sky above it is still a rich twilight purple. The huge bulk of the wall is scarred by the black line of the Great Gully, a deep vertical crack just visible in the gloomy air. Above it, a blank face. Trees rustle in the wind; the dark meadow looks wild.

"I can't believe how tall it is!" Arthur is exclaiming for the third time. He laughs out loud. "It's just unbelievable!"

"From this vantage," Hans says, "the top is over seventy degrees above our real horizon."

"You're kidding! I can't believe it!" And Arthur falls into a fit of helpless giggling. The Martians following Hans and his friend watch with amused reserve. Arthur is quite a bit shorter than the rest of them, and suddenly to Roger he seems like a child caught after breaking into the liquor cabinet. Roger pauses to allow the others to walk on.

The big tent glows like a dim lamp, luminous yellow in the dark. The cliff-face is black and still. From the forest comes a weird yipping yodel. Some sort of mutant wolves, no doubt. Roger shakes his head. Long ago any landscape exhilarated him; he was in love with the planet. Now the immense cliff seems to hang over him like his life, his past, obliterating the sky, blocking off any progress westward. The depression he feels is

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so crushing that he almost sits on the meadow grass, to plunge his face in his hands; but others will be leaving the tent. Again, that mournful yowling: the planet, crying out, Mars is gone! Mars is gone! Ow-ooooooooo! Homeless, the old man goes to sleep in a car.

But as always, insomnia takes its share of the night. Roger lies in the narrow bed, his body relaxed, his consciousness bouncing helplessly through scenes from his life. Insomnia, memory: some of his doctors have told him there is a correlation between the two. Certainly for him the hours of insomniac awareness and half-sleep are memory's playground, and no matter what he does to fill the time between lying down and falling asleep (like reading to exhaustion, or scratching notes), tyrannical memory will have its hour.

This night he remembers all the nights in Burroughs. All the opponents, all the compromises. The Chairman handing him the order to dam and flood Coprates Chasma, with his little smile and flourish, the touch of hidden sadism. The open dislike from Noyova, that evening years before, after the Chairman's appointments: "The Reds are finished, Clayborne. You shouldn't be holding office—you are the leader of a dead party." Looking at the Chairman's dam construction bill and thinking of Coprates the way it had been in the previous century, when he had explored it, it occurred to him that ninety percent of what he had done in office, he did to stay in a position to be able to do anything. That was what it meant to work in government. Or was it a higher percentage? What had he really done to preserve the planet? Certain bills balked before they began, certain development projects delayed; all he had done was resist the doings of others. Without much success. And it could even be said that walking out on the Chairman and his "coalition" cabinet was only another gesture, another defeat.

He recalls his first day in office. A morning on the polar plains. A day in Burroughs, in the park. In the Cabinet office, arguing with Novoyov. And on it will go, for another hour or more, scene after scene until the memories become fragmented and dreamlike, spliced together surrealistically, stepping outside the realm of memory into sleep.

There are topographies of the spirit, and this is one of them.

Dawn on Mars. First the plum sky, punctuated by a diamond pattern of four dawn mirrors that orbit overhead and direct a little more of Sol's light to the planet. Flocks of black choughs caw sleepily as they flap and glide out over the talus slope to begin the day's hunt for food. Snow pigeons coo in the branches of a grove of tawny birch. Up in the talus,

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a clatter of rocks; three Dall sheep are looking surprised to see the base camp meadow occupied. Sparrows flit overhead.

Roger, up early with a headache, observes all the stirring wildlife indifferently. He hikes up into the broken rock of the talus to get clear of it. The upper rim of the escarpment is struck by the light of the rising sun, and now there is a strip of ruddy gold overhead, bathing all the shadowed slope below with reflected sunlight. The dawn mirrors look dim in the clear violet sky. Colors appear in the tufts of flowers scattered through the rock, and the green juniper needles glow. The band of lit cliff quickly grows; even in full light the upper slopes look sheer and blank. But that is the effect of distance and foreshortening. Lower on the face, crack systems look like brown rain stains, and the wall is rough-looking, a good sign. The upper slopes, when they get high enough, will reveal their own irregularities.

Dougal hikes out of the rock field, ending some dawn trek of his own. He nods to Roger. "Not started yet, are we?" His English is accented with a distinctly Scottish intonation.

In fact they are. Eileen and Marie and Ivan have gotten the first packs out of the cars, and when Roger and Dougal return they are distributing them. The meadow becomes noisier as the long equipment sorting ends and they get ready to take off. The packs are heavy, and the Sherpas groan and joke when they lift theirs. Arthur can't help laughing at the sight of them. "On Earth you couldn't even *move* a pack that size," he exclaims, nudging one of the oversized bags with a foot. "How do you balance with one of these on?"

"You'll find out," Hans tells him cheerfully.

Arthur finds that balancing the mass of his pack in Martian gravity is difficult. The pack is almost perfectly cylindrical, a big green tube that extends from the bottom of his butt to just over his head; with it on his back he looks like a tall green snail. He exclaims at its lightness relative to its size, but as they hike through the talus its mass swings him around much more than he is prepared for. "Whoah! Look out there! Sorry!" Roger nods and wipes sweat from his eye. He sees that the first day is one long lesson in balance for Arthur, as they wind their way up the irregular slope through the forest of house-sized boulders.

Previous parties have left a trail with rock ducks and blazes chopped onto boulder faces, and they follow it wherever they can find it. The ascent is tedious; although this is one of the smaller fans of broken rock at the bottom of the escarpment (in some areas mass wasting has collapsed the entire cliff into talus), it will still take them all of a very long day to wind their way through the giant rockpile to the bottom of the wall proper, some seven hundred meters above base camp.

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At first Roger approves of the hike through the jumbled field of house-sized boulders. "The Khumbu Rockfall," Ivan calls out, getting into his Sherpa persona as they pass under a big stone serrac. But unlike the Khumbu Icefall below the fabled Everest, this chaotic terrain is relatively stable; the overhangs won't fall on them, and there are few hidden crevasses to fall into. No, it is just a rockfield, and Roger likes it. Still, on the way they pass little pockets of chir pine and juniper, and ahead of Roger, Hans apparently feels obliged to identify every flower to Arthur. "There's aconite, and those are anemones, and that's a kind of iris, and those are gentians, and those are primulas. . . ." Arthur stops to point. "What the hell is that!"

Staring down at them from a flat-topped boulder is a small furry mammal. "It's a dune dog," Hans says proudly. "They've clipped some marmot and Weddell seal genes onto what is basically a wolverine."

"You're kidding! It looks like a miniature polar bear."

Behind them Roger shakes his head, kicks idly at a stand of tundra cactus. It is flowering; the six-month Martian spring is beginning. Syrtis grass tufting in every wet sandy flat. Little biology experiments, everywhere you look; the whole planet one big laboratory. Roger sighs. Arthur tries to pick one of each variety of flower, making a bouquet suitable for a state funeral, but after too many falls he gives up, and lets the colorful bundle hang from his hand. Late in the day they reach the bottom of the wall. The whole world is in shadow, while the clear sky overhead is still a bright lavender. Looking up they cannot see the top of the escarpment any more; they will not see it again unless their climb succeeds.

Camp One is a broad, flat circle of sand, surrounded by boulders that were once part of the face, and set under a slight overhang formed by the sheer rampart of basalt that stands to the right side of the Great Gully. Protected from rockfall, roomy and comfortable to lie on, Camp One is perfect for a big lower camp, and it has been used before; between the rocks they find pitons, oxygen cylinders, buried latrines overgrown with bright green moss.

The next day they wind their way back down through the talus to Base Camp—all but Dougal and Marie, who take the day to look at the routes leading out of Camp One. For the rest of them, it's off before dawn, and down through the talus at nearly a running pace; a quick reloading; and back up in a race to reach Camp One again before nightfall. Every one of the next four days will be spent in the same way, and the Sherpas will continue for three more days after that, threading the same trail through the boulders, until all the equipment has been lugged up to Camp One.

In the same way that a tongue will go to a sore tooth over and over,

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Roger finds himself following Hans and Arthur to hear the areologist's explanations. He has realized, to his chagrin, that he is nearly as ignorant about what lives on Mars as Arthur is.

"See the blood pheasant?"

"No."

"Over there. The head tuft is black. Pretty well camouflaged."

"You're kidding. Why, there it is!"

"They like these rocks. Blood pheasants, redstarts, accentors—more of them here than we ever see."

Later: "Look there!"

"Where?"

Roger finds himself peering in the direction Hans has pointed.

"On the tall rock, see? The killer rabbit, they call it. A joke."

"Oh, a joke," Arthur says carefully. Roger makes a revision in his estimation of the Terran's subtlety. "A rabbit with fangs?"

"Not exactly. Actually there's very little hare in it—more lemming and pika, but with some important traits of the lynx added. A very successful creature. Some of Harry Whitebook's work. He's *very* good."

"So some of your biological designers become famous?"

"Oh yes. Very much so. Whitebook is one of the best of the mammal designers. And we seem to have a special love for mammals, don't we?"

"I know I do." Several puffing steps up waist-high blocks. "I just don't understand how they can survive the cold!"

"Well, it's not that cold down here, of course. This is the top of the alpine zone, in effect. The adaptations for cold are usually taken directly from arctic and antarctic creatures. Many seals can cut the circulation to their extremities when necessary to preserve heat. And they have a sort of anti-freeze in their blood—a glycoprotein that binds to the surface of ice crystals and stops their growth—stops the accumulation of salts. Wonderful stuff. Some of these mammals can freeze limbs and thaw them without damage to the flesh."

"You're kidding," Roger whispers as he hikes.

"You're kidding!"

"And these adaptations are part of most Martian mammals. Look! There's a little foxbear! That's Whitebook again."

Roger stops following them. No more Mars.

Black night. The six big box tents of Camp One glow like a string of lamps at the foot of the cliff. Roger, out in the rubble relieving himself, looks back at them curiously. It is, he thinks, an odd group. People from all over Mars (and a Terran). Only climbing in common. The lead climbers are funny. Dougal sometimes seems a mute, always watching from a corner, never speaking. A self-enclosed system. Marie speaks for both of

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them, perhaps. Roger can hear her broad Midlands voice now, hoarse with drink, telling someone how to climb the face. She's happy to be here. Roger? He shakes his head, returns to the tents.

Inside Eileen's tent he finds a heated discussion in progress. Marie Whillans says, "Look, Dougal and I have already gone nearly a thousand meters up these so-called blank slabs. There are cracks all over the place."

"As far as you've gone there are," Eileen says. "But the true slabs are supposed to be above those first cracks. Four hundred meters of smooth rock. We could be stopped outright."

"So we could, but there's got to be *some* cracks. And we can bolt our way up any really blank sections if we have to. That way we'd have a completely new route."

Hans Boethe shakes his head. "Putting bolts in some of this basalt won't be any fun."

"I hate bolts anyway," Eileen says. "The point is, if we take the Gully up to the first amphitheater, we know we've got a good route to the top, and all the upper pitches will be new."

Stephan nods, Hans nods, Frances nods. Roger sips a cup of tea and watches with interest. Marie says, "The *point* is, what kind of climb do we want to have?"

"We want to get to the top," Eileen says, glancing at Stephan, who nods. Stephan has paid for most of this expedition, and so in a sense it's his choice.

"Wait a second," Marie says sharply, eyeing each of them in turn. "That's not what it's about. We're not here just to repeat the Gully route, are we?" Her voice is accusing and no one meets her eye. "That wasn't what I was told, anyway. I was told we were taking a new route, and that's why I'm here."

"It will inevitably be a new route," Eileen says. "You know that, Marie. We trend right at the top of the Gully and we're on new ground. We only avoid the blank slabs that flank the Gully to the right!"

"I think we should try those slabs," Marie says, "because Dougal and I have found they'll go." She argues for this route, and Eileen listens patiently. Stephan looks worried; Marie is persuasive, and it seems possible that her forceful personality will overwhelm Eileen's, leading them onto a route rumored to be impossible.

But Eileen says, "Climbing *any* route on this wall with only eleven people will be doing something. Look, we're only talking about the first 1200 meters of the climb. Above that we'll tend to the right whenever possible, and be on new ground above these slabs."

"I don't believe in the slabs," Marie says. And after a few more ex-

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changes: "Well, that being the case, I don't see why you sent Dougal and me up the slabs these last few days."

"I didn't send you up," Eileen says, a bit exasperated. "You two choose the leads, you know that. But this is a fundamental choice, and I think the Gully is the opening pitch we came to make. We do want to make the top, you know. Not just of the wall, but the whole mountain."

After more discussion Marie shrugs. "Okay. You're the boss. But it makes me wonder. Why are we making this climb?"

On the way to his tent Roger remembers the question. Breathing the cold air, he looks around. In Camp One the world seems a place creased and folded: horizontal half stretching away into darkness—back down into the dead past; vertical half stretching up to the stars—into the unknown. Only two tents lit from within now, two soft blobs of yellow in the gloom. Roger stops outside his darkened tent to look at them, feeling they say something to him; the eyes of the mountain, looking. . . . Why is he making this climb?

Up the Great Gully they go. Dougal and Marie lead pitch after pitch up the rough, unstable rock, hammering in pitons and leaving fixed ropes behind. The ropes tend to stay in close to the right wall of the gully, to avoid the falling rock that shoots down it all too frequently. The other climbers follow from pitch to pitch in teams of two and three. As they ascend they can see the four Sherpas, tiny animals winding their way down the talus again.

Roger has been teamed with Hans for the day. They clip themselves onto the fixed rope with jumars, metal clasps that will slide up the rope but not down. They are carrying heavy packs up to Camp 2, and even though the slope of the Gully is only fifty degrees here, and its dark rock knobby and easy to climb, they both find the work hard. The sun is hot and their faces are quickly bathed with sweat.

"I'm not in the best of shape for this," Hans puffs. "It may take me a few days to get my rhythm."

"Don't worry about me," Roger says. "We're going about as fast as I like."

"I wonder how far above Camp 2 is?"

"Not too far. Too many carries to make, without the power reels."

"I look forward to the vertical pitches. If we're going to climb we might as well climb, eh?"

"Especially since the power reels will pull our stuff up."

"Yes." Breathless laugh.

Steep, deep ravine. Medium gray andesite, an igneous volcanic rock,

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speckled with crystals of dark minerals, knobbed with hard protrusions. Pitons hammered into small vertical cracks.

Midday they meet with Eileen, Arthur, and Frances, the team above, who are sitting on a narrow ledge in the wall of the Gully, jamming down a quick lunch. The sun is nearly overhead; in an hour they will lose it. Roger and Hans are happy to sit on the ledge. Lunch is lemonade and several handfuls of the trail mix Frances has made. The others discuss the gully and the day's climb, and Roger eats and listens. He becomes aware of Eileen sitting on the ledge beside him. Her feet kick the wall casually, and the quadriceps on the tops of her thighs, big exaggerated muscles, bunch and relax, bunch and relax, stretching the fabric of her climbing pants. She is following Hans's description of the rock and appears not to notice Roger's discreet observation. Could she really *not remember* him? Roger breathes a soundless sigh. It's been a long life. And all his effort—

"Let's get up to Camp 2," Eileen says, looking at him curiously.

Early in the afternoon they find Marie and Dougal on a broad shelf sticking out of the steep slabs to the right of the Great Gully. Here they make Camp 2: four large box tents, made to withstand rockfalls of some severity.

Now the verticality of the escarpment becomes something immediate and tangible. They can only see the wall for a few hundred meters above them; beyond that it is hidden, except up the steep trough in the wall that is the Great Gully, etching the vertical face just next to their shelf. Looking up this giant couloir they can see more of the endless cliff above them, dark and foreboding against the pink sky.

Roger spends an hour of the cold afternoon sitting at the Gully edge of their shelf, looking up. They have a long way to go; his hands in their thick pile mittens are sore, his shoulders and legs tired, his feet cold. He wishes more than anything that he could shake the depression that fills him; but thinking that only makes it worse.

Eileen Monday sits beside him. "So we were friends once, you say."

"Yeah." Roger looks her in the eye. "You don't remember at all?"

"It was a long time ago."

"Yes. I was twenty-six, you were about twenty-three."

"You really remember that long ago?"

"Some of it, yes."

Eileen shakes her head. She has good features, Roger thinks. Fine eyes. "I wish I did. But as I get older my memory gets even worse. Now I think for every year I live I lose at least that much in memories. It's

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sad. My whole life before I was seventy or eighty—all gone." She sighs. "I know most people are like that, though. You're an exception."

"Some things seem to be stuck in my mind for good," says Roger. He can't believe it isn't true of everyone! But that's what they all say. It makes him melancholy. Why live at all? What's the point? "Have you hit your three hundredth yet?"

"In a few months. But—come on. Tell me about it."

"Well . . . you were a student. Or just finishing school, I can't remember." She smiles. "Anyway, I was guiding groups in hikes through the little canyons north of here, and you were part of a group. We started up a—a little affair, as I recall. And saw each other for a while after we got back. But you were in Burroughs, and I kept guiding tours, and —well, you know. It didn't last."

Eileen smiles again. "So I went on to become a mountain guide—which I've been for as long as I can remember—while you moved to the city and got into politics!" She laughs and Roger smiles wryly. "Obviously we must have impressed each other!"

"Oh yes, yes." Roger laughs shortly. "Searching for each other." He grins lopsidedly, feeling bitter. "Actually, I only got into government about forty years ago. Too late, as it turned out."

Silence for a while. "So that's what's got you down," Eileen says.

"What?"

"The Red Mars party—out of favor."

"Out of existence, you mean."

She considers it. "I never could understand the Red point of view—"

"Few could, apparently."

"—Until I read something in Heidegger, where he makes a distinction between *earth* and *world*. Do you know it?"

"No.

"*Earth* is that blank materiality of nature that exists before us and more or less sets the parameters on what we can do. Sartre called it facticity. *World* then is the human realm, the social and historical dimension that gives earth its meaning."

Roger nods his understanding.

"So—the Reds, as I understood it, were defending earth. Or planet, in this case. Trying to protect the primacy of planet over world—or at least to hold a balance between them."

"Yes," Roger said. "But the world inundated the planet."

"True. But when you look at it that way, you can see what you were trying to do was hopeless. A political party is inevitably part of the world, and everything it does will be worldly. And we only know the materiality of nature through our human senses—so really it is only world that we know directly."

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"I'm not sure about that," Roger protested. "I mean, it's logical, and usually I'm sure it's true—but sometimes"— He smacks the rock of their shelf with his mittened hand. "You know?"

Eileen touches the mitten. "World."

Roger lifts his lip, irritated. He pulls the mitten off and hits the cold rock again. "Planet."

Eileen frowns thoughtfully. "Maybe."

And there *was* hope, Roger thought fiercely. We could have lived on the planet the way we found it, and confronted the materiality of earth every day of our lives. We could have.

Eileen is called away to help with the arrangement of the next day's loads. "We'll continue this later," she says, touching Roger lightly on the shoulder.

He is left alone over the Gully. Moss discolors the stone under him, and grows in cracks in the couloir. Swallows shoot down the Gully like falling stones, hunting for cliff mice or warm-blooded lizards. To the east, beyond the great shadow of the volcano, dark forests mark the sunlit Tharsis bulge like blobs of lichen. Nowhere can one see Mars, just Mars, the primal Mars. Clenching a cold, rope-sore fist, Roger thinks, *They forgot.* They forgot what it was like to walk out onto the empty face of old Mars.

Once he walked out onto the Great Northern Desert. All of Mars's geographical features are immense by Terran scales, and just as the southern hemisphere is marked by huge canyons, basins, volcanoes, and craters, the northern hemisphere is strangely, hugely smooth; in fact it had, in its highest latitudes, surrounding what at that time was the polar ice cap (it is now a small sea), a planet-ringing expanse of empty, layered sand. Endless desert. And one morning before dawn Roger walked out of his campsite and hiked a few kilometers over the broad wave-like humps of the windswept sand, and sat down on the crest of one of the highest waves. There was no sound but his breath, his blood pounding in his ears, and the slight hiss of the oxygen regulator in his helmet. Light leaked over the horizon to the southeast and began to bring out the sand's dull ochre, flecked with dark red. When the sun cracked the horizon the light bounced off the short steep faces of the dunes and filled everything. He breathed the gold air, and something in him bloomed, he became a flower in a garden of rock, the sole consciousness of the desert, its focus, its soul. Nothing he had ever felt before came close to matching this exaltation, this awareness of brilliant light, of illimitable expanse, of the glossy, intense *presence* of material things. He returned to his camp late in the day, feeling that a moment had passed—or an age. He was nineteen years old, and his life was changed.

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Just being able to remember that incident, after two hundred and eighty-odd years have passed, makes Roger a freak. Less than one percent of the population share this gift (or curse) of powerful, long-term recollection. These days Roger feels the ability like a weight—as if each year were a stone, so that now he carries the crushing burden of three hundred red stones everywhere he goes. He feels angry that others forget. Perhaps it is envious anger.

Thinking of that walk when he was nineteen reminds Roger of a time years later, when he read Herman Melville's novel *Moby Dick*. The little black cabin boy Pip (and Roger had always identified himself with Pip in *Great Expectations*), "the most insignificant of the *Pequod's* crew," fell overboard while his whaleboat was being pulled by a harpooned whale. The boat flew onward, leaving Pip alone. "The intense concentration of self in the middle of such a heartless immensity, my God! who can tell it?" Abandoned on the ocean surface alone, Pip grew more and more terrified, until "By the merest chance the ship itself at last rescued him; but from that hour the little Negro went about the deck an idiot. . . . The sea had jeeringly kept his finite body up, but drowned the infinite of his soul."

Reading that made Roger feel strange. Someone had lived an hour very like his day on the polar desert, out in the infinite void of nature. And what had seemed to Roger rapture, had driven Pip insane.

It occurred to him, as he stared at the thick book, that perhaps he had gone mad as well. Terror, rapture—these extremities of emotion circumnavigate the spirit and approach each other again, though departing from the origin of perception in opposite directions. Mad with solitude, ecstatic with Being—the two parts of the recognition of self sit oddly together. But Pip's insanity only shocked Roger into a sharper love for his own experience of the "heartless immensity." He *wanted* it; and suddenly all the farthest, most desolate reaches of Mars became his special joy. He woke at night and sat up to watch dawns, the flower in the garden of rock. And wandered days like John in the desert, seeing God in stones and frost and skies that arched like sheets of fire.

Now he sits on a ledge on a cliff on a planet no longer his, looking down on plains and canyons peppered with life, life *created by the human mind*. It is as if the mind has extruded itself into the landscape: each flower an idea, each lizard a thought. . . . There is no heartless immensity left, no mirror of the void for the self to see itself in. Only the self, everywhere, in everything, suffocating the planet, cloying all sensation, imprisoning every being.

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Perhaps this perception itself was a sort of madness.

The sky itself, after all (he thought), provides a heartless immensity beyond the imagination's ability to comprehend, night after night.

Perhaps he needed an immensity he could imagine the extent of, to feel the perception of it as ecstasy rather than terror.

Roger sits remembering his life and thinking over these matters, as he tosses granules of rock—little pips—over the ledge into space.

To his surprise, Eileen rejoins him. She sits on her heels, recites quietly,

> "I love all waste
> And solitary places, where we taste
> The pleasure of believing what we see
> Is boundless, as we wish our souls to be."

"Who said that?" Roger asks, startled by the lines.

"Shelley," Eileen replies. "In 'Julian and Maddalo.' "

"I like it."

"Me too." She tosses a pip over herself. "Come join us for dinner?"

"What? Oh, sure, sure. I didn't know it was time."

That night, the sound of the tent scraping stone, as the wind shifts it and shifts it. The scritching of thought as world scrapes against planet.

Next day they start spreading out. Marie, Dougal, Hannah, and Ginger take off early up the Gully, around a rib and out of sight, leaving behind a trail of fixed rope. Occasionally those left below can hear their voices, or the ringing of a piton being hammered into the hard rock. Another party descends to Camp 1, to begin dismantling it. When they have got everything up to Camp 2, the last group up will bring the fixed ropes up with them. Thus they will set rope above them and pull it out below them, all the way up the wall.

Late the next day Roger climbs up to carry more rope to Marie and Dougal and Hannah and Ginger. Frances comes with him.

The Great Gully is steeper above Camp 2, and after a few hours of slow progress Roger finds his pack growing very heavy. His hands hurt, the footholds grow smaller and smaller, and he finds he must stop after every five or ten steps. "I just don't have it today," he says as Frances takes over the lead.

"Me neither," she says, wheezing for air. "I think we'll have to start using oxygen during the climbing pretty soon."

But the lead climbers do not agree. Dougal is working his way up a constriction in the Gully, knocking ice out of a crack with his ice axe,

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then using his fists for chocks and his twisted shoe soles for a staircase, and stepping up the crack as fast as he can clear it. Marie is belaying him and it is left to Hannah and Ginger to greet Roger and Frances. "Great, we were just about to run out of rope."

Dougal stops and Marie takes the opportunity to point to the left wall of the Gully. "Look," she says, disgusted. Roger and Frances see a streak of light blue—a length of xylar climbing rope, hanging free from a rust-pitted piton. "That Terran expedition, I bet," Marie says. "They left ropes the entire way, I hear."

From above Dougal laughs.

Marie shakes her head. "I hate seeing stuff like that."

Frances says, "I think we'd better go onto oxygen pretty soon."

She gets some surprised stares. "Why?" asks Marie. "We've barely started."

"Well, we're at about four kilometers above the datum—"

"Exactly," Marie says. "I *live* higher than that."

"Yes, but we're working pretty hard here, and going up pretty fast. I don't want anyone to get edema."

"I don't feel a thing," Marie says, and Hannah and Ginger nod.

"I could use a bit of oxygen," Dougal says from above, grinning down at them briefly.

"You don't feel edema till you have it," Frances says stiffly.

"Edema," says Marie, as if she doesn't believe in it.

"Marie's immune," Dougal calls down. "Her head can't get more swollen than it already is."

Hannah and Ginger giggle at Marie's mock glare, her tug on the rope to Dougal.

"Down you come, boy."

"On your head."

"We'll see how the weather goes," Frances says. "But either way, if we make normal progress we'll be needing oxygen soon."

This is apparently too obvious to require comment. Dougal reaches the top of the crack, and hammers in a piton; the ringing strikes grow higher and higher in pitch as the piton sets home.

That afternoon Roger helps the leads set up a small wall tent. The wall tents are very narrow and have a stiff inflatable floor; they can be hung from three pitons if necessary, so that the inhabitants rest on an air-filled cushion hanging in space, like window-washers. But more often they are placed on ledges or indentations in the cliff-face, to give the floor some support. Today they have found that above the narrowing of the Great Gully is a flattish indentation protected by an overhang. The cracks above the indentation are poor, but with the addition of a couple

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of rock bolts the climbers look satisfied. They will be protected from rockfall, and tomorrow they can venture up to find a better spot for Camp 3 without delay. As there is just barely room (and food) for two, Roger and Frances begin the descent to Camp 2.

During the descent Roger imagines the cliff face as flat ground, entertained by the new perspective this gives. Ravines cut into that flat land: vertically these are called gulleys, or couloirs, or chimneys, depending on their shape and tilt. Climbing in these gives the climber an easier slope and more protection. Flat land has hills, and ranges of hills: these vertically are knobs, or ridges, or shelfs, or buttresses. Depending on their shape and tilt these can either be obstacles, or in the case of some ridges, easy routes up. Then walls become ledges, and creeks become cracks—although cracking takes its own path of least resistance, and seldom resembles water-carved paths.

As Roger belays Frances down one difficult pitch (they can see more clearly why their climb up was so tiring), he looks around at what little he can see: the gray and black walls of the gully, some distance above and below him; the steep wall of the rampart to the left of the gully. And that's all. A curious duality; because this topography stands near the vertical, in many ways he will never see it as well as he would an everyday horizontal hillside. But in other ways (looking right into the grain of the rock to see if one nearly detached knob will hold the weight of his entire body for a long step down, for instance) he sees it much more clearly, more *intensely* than he will ever ever see the safe world of flatness. This intensity of vision is something the climber treasures.

The next day Roger and Eileen team up, and as they ascend the gully with another load of rope, a rock the size of a large person falls next to them, chattering over an outcropping and knocking smaller rocks down after it. Roger stops to watch it disappear below. The helmets they are wearing would have been no protection against a rock that size.

"Let's hope no one is following us up," Roger says.

"Not supposed to be."

"I guess getting out of this gully won't be such a bad idea, eh?"

"Rockfall is almost as bad on the face. Last year Marie had a party on the face when a rock fell on a traverse rope and cut it. Client making the traverse was killed."

"A cheerful business."

"Rockfall is bad. I hate it."

Surprising emotion in her voice; perhaps some accident has occurred under her leadership as well? Roger looks at her curiously. Odd to be a climbing guide and not be more stoic about such dangers.

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Then again, rockfall is the danger beyond expertise.
She looks up: distress. "You know."
He nods. "No precautions to take."
"Exactly. Well, there are some. But they aren't really sufficient."

The lead climbers' camp is gone without a trace, and a new rope leads up the left wall of the gully, through a groove in the overhang and out of sight above. They stop to eat and drink, then continue up. The difficulty of the next pitch impresses them; even with the rope it is hard going. They wedge into the moat between a column of ice and the left wall, and inch up painfully. "I wonder how long this lasts," Roger says, wishing they had their crampons with them. Above him, Eileen doesn't reply for over a minute. Then she says, "Three hundred more meters," as if out of the blue. Roger groans theatrically, client to guide.

Actually he is enjoying following Eileen up the difficult pitch. She has a quick rhythm of observation and movement that reminds him of Dougal, but her choice of holds is all her own—and closer to what Roger would choose. Her calm tone as they discuss the belays, her smooth pulls up the rock, the fine proportions of her long legs, reaching for the awkward foothold: a beautiful climber. And every once in a while there is a little jog at Roger's memory.

Three hundred meters above they find the lead climbers, out of the gully and on a flat ledge that covers nearly a hectare, on the left side this time. From this vantage they can see parts of the cliff face to the right of the gully, above them. "Nice campsite," Eileen remarks. Marie, Dougal, Hannah, and Ginger are sitting about, resting in the middle of setting up their little wall tents. "Looked like you had a hard day of it down there."

"Invigorating," Dougal says, eyebrows raised.

Eileen surveys them. "Looks like a little oxygen might be in order." The lead group protests. "I know, I know. Just a little. A cocktail."

"It only makes you crave it," Marie says.

"Maybe so. We can't use much down here, anyway."

In the midday radio call to the camps below, Eileen tells the others to pack up the tents from Camp 1. "Bring those and the power reels up first. We should be able to use the reels between these camps."

They all give a small cheer. The sun disappears behind the cliff above, and they all groan. The leads stir themselves and continue setting up the tents. The air chills quickly.

Roger and Eileen descend through the afternoon shadows to Camp 2, as there is not enough equipment to accommodate more than the lead

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group at Camp 3. Descending is easy on the muscles compared to the ascent, but it requires just as much concentration as going up. By the time they reach Camp 2 Roger is very tired, and the cold sunless face has left him depressed again. Up and down, up and down.

That night during the sunset radio conversation Eileen and Marie get into an argument when Eileen orders the leads down to do some portering. "Look, Marie, the rest of us haven't led a single pitch, have we? And we didn't come on this climb to ferry up goods for you, did we?" Eileen's voice has a very sharp, cutting edge to it when she is annoyed. Marie insists the first team is making good time, and is not tired yet. "That's not the point. Get back down to Camp 1 tomorrow, and finish bringing it up. The bottom team will move up and reel Camp 2 up to 3, and those of us here at 2 will carry one load up to 3 and have a bash at the lead after that. That's the way it is, Marie—we leapfrog in my climbs, you know that."

Sounds behind the static from the radio, of Dougal talking to Marie. Finally Marie says, "Aye, well you'll need us more when the climbing gets harder anyway. But we can't afford to slow down much."

After the radio call Roger leaves the tents and sits on his ledge bench to watch the twilight. Far to the east the land is still sunlit, but as he watches the landscape darkens, turns dim purple under the blackberry sky. Mirror dusk. A few stars sprinkle the high dome above him. The air is cold but still, and he can hear Hans and Frances inside their tent, arguing about glacial polish. Frances is an areologist of some note, and apparently she disagrees with Hans about the origins of the escarpment; she spends some of her climbing time looking for evidence in the rock.

Eileen sits down beside him. "Mind?"

"No," he says.

She says nothing, and it occurs to him she may be upset. He says, "I'm sorry Marie is being so hard to get along with."

She waves a mittened hand to dismiss it. "Marie is always like that. It doesn't mean anything. She just wants to climb." She laughs. "We go on like this every time we climb together, but I still like her."

"Hmph." Roger raises his eyebrows. "I wouldn't have guessed."

She does not reply. For a long time they sit there. Roger's thoughts return to the past, and helplessly his spirits plummet again.

"You seem . . . disturbed about something," Eileen ventures.

"Ehh," Roger says. "About everything, I suppose." And winces to be making such a confessional. But she appears to understand; she says,

"So you fought all the terraforming?"

"Most of it, yeah. First as head of a lobbying group. You must be part of it now—Martian Wilderness Explorers."

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"I pay the dues."

"Then in the Red government. And in the Interior Ministry, after the Greens took over. But none of it did any good."

"And why, again?"

"*Because*," he bursts out—stops—starts again: "Because I liked the planet the way it was when we found it! A lot of us did, back then. It was so beautiful . . . or not just that. It was more overwhelming than beautiful. The size of things, their shapes—the whole planet had been evolving, the landforms themselves I mean, for five billion years, and traces of *all* that time were still on the surface to be seen and read, if you knew how to look. It was so wonderful to be out there. . . ."

"The sublime isn't always beautiful."

"True. It transcended beauty, it really did. One time I walked out onto the polar desert, you know. . . ." But he doesn't know how to tell it. "And so, and so it seemed to me that we already had an Earth, you know? That we didn't need a Terra up here. And everything they did eroded the planet that we came to. They destroyed it! And now we've got—whatever. Some kind of park. A laboratory to test out new plants and animals and all. And everything I loved so much about those early years is gone. You can't find it anywhere anymore."

In the dark he can just see her nodding. "And so your life's work . . ."

"Wasted!" He can't keep the frustration out of his voice. Suddenly he doesn't want to, he wants her to understand what he feels, he looks at her in the dark, "A three-hundred year life, entirely wasted! I mean I might as well have just . . ." He doesn't know what.

Long pause.

"At least you can remember it," she says quietly.

"What good is that? I'd rather forget, I tell you."

"Ah. You don't know what that's like."

"Oh, the past. The God-damned past. It isn't so great. Just a dead thing."

She shakes her head. "Our past is never dead. Do you know Sartre's work?"

"No."

"A shame. He can be a big help to we who live so long. For instance, in several places he suggests that there are two ways of looking at the past. You can think of it as something dead and fixed forever; it's part of you, but you can't change it, and you can't change what it means. In that case your past limits or even controls what you can be. But Sartre doesn't agree with that way of looking at it. He says that the past is constantly altered by what we do in the present moment. The *meaning* of the past is as fluid as our freedom in the present, because every new act that we commit can revalue the entire thing!"

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Roger humphs. "Existentialism."

"Well, whatever you want to call it. It's part of Sartre's philosophy of freedom, for sure. He says that the only way we can possess our past—whether we can remember it or not, I say—is to add new acts to it, which then give it a new value. He calls this 'assuming' our past."

"But sometimes that may not be possible."

"Not for Sartre. The past is always assumed, because we are *not* free to stop creating new values for it. It's just a question of what those values will be. For Sartre it's a question of *how* you will assume your past, not whether you will."

"And for you?"

"I'm with him on that. That's why I've been reading him these last several years. It helps me to understand things."

"Hmph." He thinks about it. "You were an English major in college, did you know that?"

But she ignores the comment. "So—" She nudges him lightly, shoulder to shoulder. "You have to decide how you will assume this past of yours. Now that your Mars is gone."

He considers it.

She stands. "I have to plunge into the logistics for tomorrow."

"Okay. See you inside."

A bit disconcerted, he watches her leave. Dark tall shape against the sky. The woman he remembers was not like this. In the context of what she has just said, the thought almost makes him laugh.

For the next few days all the members of the team are hard at work ferrying equipment up to Camp 3, except for two a day who are sent above to find a route to the next camp. It turns out there is a feasible reeling route directly up the gully, and most of the gear is reeled up to Camp 3 once it is carried to Camp 2. Every evening there is a radio conversation, in which Eileen takes stock and juggles the logistics of the climb, and gives the next day's orders. From other camps Roger listens to her voice over the radio, interested in the relaxed tone, the method she has of making her decisions right in front of them all, and the easy way she shifts her manner to accommodate whoever she is speaking with. He decides she is very good at her job, and wonders if their conversations are simply a part of that. Somehow he thinks not.

Roger and and Stephan are given the lead, and early one mirror dawn they hurry up the fixed ropes above Camp 3, turning on their helmet lamps to aid the mirrors. Roger feels strong in the early going. At the top of the pitch the fixed ropes are attached to a nest of pitons in a large, crumbling crack. The sun rises and suddenly bright light glares onto the

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face. Roger ropes up, confirms the signals for the belay, starts up the gully.

The lead at last. Now there is no fixed rope above him determining his way; only the broad flat back and rough walls of the gully, looking much more vertical than they have up to this point. Roger chooses the right wall and steps up onto a rounded knob. The wall is a crumbling, knobby andesite surface, black and a reddish gray in the harsh morning blast of light; the back wall of the gully is smoother, layered like a very thick-grained slate, and broken occasionally by horizontal cracks. Where the back wall meets the side wall the cracks widen a bit, sometimes offering perfect footholds. Using them and the many knobs of the wall Roger is able to make his way upward. He pauses several meters above Stephan at a good-looking vertical crack to hammer in a piton. Getting a piton off the belt sling is awkward. When it is hammered in he pulls a rope through and jerks on it. It seems solid. He climbs above it. Now his feet are spread, one in a crack, one on a knob, as his fingers test the rock in a crack above his head; then up, and his feet are both on a knob in the intersection of the walls, his left hand far out on the back wall of the gully to hold onto a little indentation. Breath rasps in his throat. His fingers get tired and cold. The gully widens out and grows shallower, and the intersection of back and side wall becomes a steep narrow ramp of its own. Fourth piton in, the ringing hammer strikes filling the morning air. New problems: the degraded rock of this ramp offers no good cracks, and Roger has to do a tension traverse over to the middle of the gully to find a better way up. Now if he falls he will swing back into the side wall like a pendulum. And he's in the rockfall zone. Over to the left side wall, quickly a piton in. Problem solved. He loves the immediacy of problem solving in climbing, though at this moment he is not aware of his pleasure. Quick look down: Stephan a good distance away, and below him! Back to concentrating on the task at hand. A good ledge, wide as his boot, offers a resting place. He stands, catches his breath. A tug on the line from Stephan; he has run out the rope. Good lead, he thinks, looking down the steep gully at the trail left by the green rope, looping from piton to piton. Perhaps a better way to cross the gully from right to left? Stephan's helmeted face calls something up. Roger hammers in three pitons and secures the line. "Come on up!" he cries. His fingers and calves are tired. There is just room to sit on his bootledge: immense world, out there under the bright pink morning sky! He sucks down the air and belays Stephan's ascent, pulling up the rope and looping it carefully. The next pitch will be Stephan's; Roger will have quite a bit of time to sit on this ledge and feel the intense solitude of his position in this vertical desolation. "Ah!" he says. Climbing up and out of the world. . . .

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It is the strongest sort of duality: facing the rock and climbing, his attention is tightly focused on the rock within a meter or two of his eyes, inspecting its every flaw and irregularity. It is not particularly good climbing rock, but the gully slopes at about seventy degrees in this section, so the actual technical difficulty is not that great. The important thing is to *understand* the rock fully enough to find only good holds and good cracks—to recognize suspect holds and avoid them. A lot of weight will follow them up these fixed ropes, and although the ropes will probably be renailed, his piton placements will likely stand. One has to see the rock and the world beneath the rock.

And then he finds a ledge to sit and rest on, and turns around, and there is the great rising expanse of the Tharsis Bulge. Tharsis is a continent-sized bulge in the Martian surface; at its center it is eleven kilometers above the Martian datum, and the three prince volcanoes lie in a line, northeast to southwest on the bulge's highest plateau. Olympus Mons is at the far northwestern edge of the bulge, almost on the great expanse of Amazonis Planitia. Now, not even half way up the great volcano's escarpment, Roger can just see the three prince volcanoes poking over the horizon to the southeast, demonstrating perfectly the size of the planet itself. He looks around one-eighteenth of Mars.

By midafternoon Roger and Stephan have run out their 300 meters of rope, and they return to Camp 3 pleased with themselves. The next morning they hurry up the fixed ropes in the mirror dawn, and begin again. At the end of Roger's third pitch in the lead he comes upon a good site for a camp: a sort of pillar bordering the Great Gully on its right side ends abruptly in a flat top that looks very promising. After negotiating a difficult short traverse to get onto the pillar top, they wait for the midday radio conference. Consultation with Eileen confirms that the pillar is about the right distance from Camp 3, and suddenly they are standing in Camp 4.

"The Gully ends pretty near to you anyway," Eileen says.

So Roger and Stephan have the day free to set up a wall tent and then explore. The climb is going well, Roger thinks: no major technical difficulties, a group that gets along fairly well together . . . perhaps the great South Buttress will not prove to be that difficult after all.

Stephan gets out a little sketchbook. Roger glances at the filled pages as Stephan flips through them. "What's that?"

"Chir pine, they call it. I saw some growing out of the rocks above Camp 1. It's amazing what you find living on the side of this cliff!"

"Yes," Roger says.

"Oh, I know, I know. You don't like it. But I'm sure I don't know why."

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He has a blank sheet of the sketchbook up now. "Look in the cracks across the gully. Lot of ice there, and then patches of moss. That's moss campion, with the lavender flowers on top of the moss cushion, see?"

He begins sketching and Roger watches, fascinated. "That's a wonderful talent to have, drawing."

"Skill. Look, there's edelweiss and asters, growing almost together." He jerks, puts finger to lips, points. "Pika," he whispers.

Roger looks at the broken niches in the moat of the gully opposite them. There is a movement and suddenly he sees them—two little gray furballs with bright black eyes—three—the last scampering up the rock fearlessly. They have a hole at the back of one niche for a home. Stephan sketches rapidly, getting the outline of the three creatures, then filling them in. Bright Martian eyes.

And once, in the Martian autumn in Burroughs, when the leaves covered the ground and fell through the air, leaves the color of sand, or the tan of antelopes, or the green of green apples, or the white of cream, or the yellow of butter—he walked through the park. The wind blew stiffly from the southwest out of the big funnel of the delta, bringing clouds flying overhead swiftly, scattered and white and sunbroken to the west, bunched up and dark dusky blue to the east; and the evergreens waved their arms in every shade of dark green, before which the turning leaves of the hardwoods flared; and above the trees to the east a white-walled church, with reddish arched roof tiles and a white bell tower, glowed under the dark clouds. Kids playing on the swings across the park, yellow-red aspens waving over the brick city hall beyond them to the north—and Roger felt—wandering among widely-spaced white-trunked trees that thrust their white limbs in every upward direction—he felt—feeling the wind loft the gliding leaves over him—he felt what all the others must have felt when they walked around, that Mars had become a place of exquisite beauty. In such lit air he could see every branch, leaf and needle waving under the tide of wind, crows flying home, lower clouds lofting puffy and white under the taller black ones, and it all struck him all at once: freshly colored, fully lit, spacious and alive in the wind—what a world! What a world.

And then, back in his offices, he hadn't been able to tell anyone about it. It wouldn't have been like him.

Remembering that, and remembering his recent talk with Eileen, Roger feels uncomfortable. His past overpowered that day's walk through the park: what kind of assumption was that?

Roger spends his afternoon free climbing above Camp 4, looking around a bit and enjoying the exercise of his climbing skills. They're coming

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back very quickly. But the rock is nearly crack-free once out of the Gully, and he decides free climbing is not a good idea. Besides, he's noticed a curious thing: about fifty meters above Camp 4, the Great Central Gully is gone. It ends in a set of overhangs like the ribs under the protruding wall of a building. Definitely not the way up. And yet the face to the right of the overhangs is not much better; it too tilts out and out, until it is almost sheer. The few cracks breaking this mass will not be easy to climb. In fact, Roger doubts he *could* climb them, and wonders if the leads are up to it. Well, sure, he thinks. They can climb anything. But it looks awful. Hans has talked about the volcano's "hard eon," when the lava pouring from the caldera was denser and more consistent than in the volcano's earlier years. The escarpment, being a sort of giant boring of the volcano's flow history, naturally reflects the changes in lava consistency in its many horizontal bands. So far they have been climbing on softer rock—now they have reached the bottom of a harder band. Back in Camp 4 Roger looks up at what he can see of the cliff above, and wonders where they will go.

Another duality: the two halves of the day, forenoon and afternoon. Forenoon is sunny and therefore hot: a morning ice and rock shower in the Gully, and time to dry out sleeping bags and socks. Then noon passes and the sun disappears behind the cliff above. For an hour or so they have the weird half-light of the dusk mirrors, then they too disappear, and suddenly the air is biting, bare hands risk frostnip, and the lighting is indirect and eerie: a world in shadow. Water on the cliff-face ices up, and rocks are pushed out—there is another period when rocks fall and go whizzing by. People bless their helmets and hunch their shoulders in, and discuss again the possibility of shoulder pads. In the cold the cheery morning is forgotten, and it seems the whole climb takes place in shadow.

When Camp 4 is established they try several reconnaissance climbs through what Hans calls the Jasper Band. "It looks like orbicular jasper, see?" He shows them a dull rock and after cutting away at it with a laser saw shows them a smooth brown surface, speckled with little circles of yellow, green, red, white. "Looks like lichen," Roger says. "Fossilized lichen."

"Yes. This is orbicular jasper. For it to be trapped in this basalt implies a metamorphic slush—lava partially melting rock in the throat above the magma chamber, and then throwing it all up. . . ."

So it was the Jasper Band, and it was trouble. Too sheer—close to vertical, really, and without an obvious way up. "At least it's good hard rock," Dougal says cheerfully.

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Then one day Arthur and Marie return from a long traverse out to the right, and then up. They hurry into camp grinning ear to ear.

"It's a ledge," Arthur says. "A perfect ledge. I can't believe it. It's about half a meter wide, and extends around this rampart for a couple hundred meters, just like a damn sidewalk! We just walked right around that corner! Completely vertical above and below—talk about a view!"

For once Roger finds Arthur's enthusiasm fully appropriate. The Thank God Ledge, as Arthur has named it ("There's one like this in Yosemite"), is a horizontal break in the cliff-face, and a flat slab just wide enough to walk on is the result. Roger stops in the middle of the ledge to look around. Straight up: rock and sky. Straight down: the tiny tumble of the talus, appearing directly below them, as Roger is not inclined to lean out too far to see the rock in between. The exposure is astonishing. "You and Marie walked along this ledge without ropes?" Roger says.

"Oh, it's fairly wide," Arthur replies. "Don't you think? I ended up crawling there where it narrows just a bit. But mostly it was fine. Marie walked the whole way."

"I'm sure she did." Roger shakes his head, happy to be clipped onto the rope that has been fixed about chest high above the ledge. With its aid he can appreciate this strange ledge—perfect sidewalk in a completely vertical world: the wall hard, knobby, right next to his head—under him the smooth surface of the ledge, and then empty space.

Verticality. Consider it. A balcony high on a tall building will give a meager analogy: experience it. On the side of this cliff, unlike the side of any building, there is no ground below. The world below is the world of belowness, the rush of air under your feet. The forbidding smooth wall of the cliff, black and upright beside you, halves the sky. Earth, air; the solid here and now, the airy infinite; the wall of basalt, the sea of gases. Another duality: to climb is to live on the most symbolic plane of existence and the most physical plane of existence *at the same time.* This too the climber treasures.

At the far end of the Thank God Ledge there is a crack system that breaks through the Jasper Band—it is like a narrow, miniature version of the Great Gully, filled with ice. Progress upward is renewed, and the cracks lead up to the base of an ice-filled half-funnel, that divides the Jasper Band even further. The bottom of the funnel is sloped just enough for Camp 5, which becomes by far the most cramped of the campsites. The Thank God Ledge traverse means that using the power reels is impossible between Camps 4 and 5, however. Everyone makes ten or

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twelve carries between the two camps. Each time Roger walks the sidewalk through space, his amazement at it returns.

While the carries across the ledge are being made, and Camps 2 and 3 are being dismantled, Arthur and Marie have begun finding the route above. Roger goes up with Hans to supply them with rope and oxygen. The climbing is "mixed," half on rock, half on black ice rimed with dirty hard snow. Awkward stuff. There are some pitches that make Roger and Hans gasp with effort, look at each other round-eyed. "Must have been Marie leading." "I don't know, that Arthur is pretty damn good." The rock is covered in many places by layers of black ice, hard and brittle—years of summer rain followed by frost have caked the exposed surfaces at this height. Roger's boots slip over the slick ice repeatedly. "Need crampons up here."

"Except the ice is so thin, you'd be kicking rock."

"Mixed climbing."

"Fun, eh?"

Breath rasps over knocking heartbeats. Holes in the ice have been broken with ice-axes; the rock below is good rock, lined with vertical fissures. A chunk of ice whizzes by, clatters on the face below.

"I wonder if that's Arthur and Marie's work."

Only the fixed rope makes it possible for Roger to ascend this pitch, it is so hard. Another chunk of ice flies by, and both of them curse.

Feet appear in the top of the open-book crack they are ascending.

"Hey! Watch out up there! You're dropping ice chunks on us!"

"Oh! Sorry, didn't know you were there." Arthur and Marie jumar down the rope to them. "Sorry," Marie says again. "Didn't know you'd come up so late. Have you got more rope?"

"Yeah."

The sun disappears behind the cliff, leaving only the streetlamp light of the dusk mirrors. Arthur peers up at them as Marie stuffs their packs with the new rope. "Beautiful," he exclaims. "They have parhelia on Earth, too, you-know—a natural effect of the light when there's ice crystals in the atmosphere. It's usually seen in Antarctica—big halos around the sun, and at two points of the halo these mock suns. But I don't think we ever had four mock suns per side. Beautiful!"

"Let's go," Marie says without looking up. "We'll see you two down at Camp 5 tonight." And off they go, using the rope and both sides of the open-book crack to quickly lever their way up.

"Strange pair," Stephan says as they descend to Camp 5.

The next day they take more rope up. In the late afternoon, after a very long climb, they find Arthur and Marie, sitting in a cave in the side

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of the cliff that is big enough to hold their entire base camp. "Can you believe this?" Arthur cries. "It's a damn hotel!"

The cave's entrance is a horizontal break in the cliff face, about four meters high and over fifteen from side to side. The floor of the cave is relatively flat, covered near the entrance with a thin sheet of ice, and littered with chunks of the roof, which is bumpy but solid. Roger picks up one of the rocks from the floor and moves it to the side of the cave, where floor and roof come together to form a narrow crack. Marie is trying to get somebody below on the radio, to tell them about the find. Roger goes to the back of the cave, some twenty meters in from the face, and ducks down to inspect the jumble of rocks in the long crack where floor and roof meet. "It's going to be nice to lay out flat for once," Stephan says. Looking out the cave's mouth Roger sees a wide smile of lavender sky.

When Hans arrives he gets very excited. He bangs about in the gloom hitting things with his ice axe, pointing his flashlight into various nooks and crannies. "It's tuff, do you see?" he says, holding up a chunk for their inspection. "This is a shield volcano, meaning it ejected very little ash over the years, which is what gave it its flattened shape. But there must have been a few ash eruptions, and when the ash is compressed it becomes tuff—this rock here. Tuff is much softer than basalt and andesite, and over the years this exposed layer has eroded away, leaving us with our wonderful hotel."

"I love it," says Arthur.

The rest of the team joins them in the mirror dusk, but the cave is still uncrowded. Although they set up tents to sleep in, they place the lamps on the cave floor, and eat dinner in a large circle, around a collection of glowing little stoves. Eyes gleam with laughter as the climbers consume bowls of stew. There is something marvelous about this secure home, tucked in the face of the escarpment three thousand meters above the plain. It is an unexpected joy to loll about on flat ground, unharnessed. Hans has not stopped prowling the cave with his flashlight. Occasionally he whistles.

"Hans!" Arthur calls when the meal is over and the bowls and pots have been scraped clean. "Get over here, Hans. Have a seat. There you go. Sit down." Marie is passing around her flask of brandy. "All right, Hans, tell me something. Why is this cave here? And why, for that matter, is this escarpment here? Why is Olympus Mons the only volcano anywhere to have this encircling cliff?"

Frances says, "It's not the *only* volcano to have such a feature."

"Now, Frances," Hans says. "You know it's the only big shield volcano

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with a surrounding escarpment. The analogies from Iceland that you're referring to are just little vents of larger volcanoes."

Frances nods. "That's true. But the analogy may still hold."

"Perhaps." Hans explains to Arthur: "You see, there is still not a perfect agreement as to the cause of the scarp. But I think I can say that my theory is generally accepted—wouldn't you agree, Frances?"

"Yes . . ."

Hans smiles genially, and looks around at the group. "You see, Frances is one of those who believe that the volcano originally grew up through a glacial cap, and that the glacier made in effect a retaining wall, holding in the lava and creating this drop-off after the glacial cap disappeared."

"There are good analogies in Iceland for this particular shape for a volcano," Frances says. "And it's eruption under and through ice that explains it."

"Be that as it may," Hans says, "I am among those who feel that the *weight* of Olympus Mons is the cause of the scarp."

"You mentioned that once before," Arthur says, "but I don't understand how that would work."

Stephan voices his agreement with this, and Hans sips from the flask with a happy look. He says,

"The volcano is extremely old, you understand. Three or four billion years, on this same site, or close to it—very little tectonic drift, unlike on Earth. So, magma upwells, lava spills out, over and over and over, and it is deposited over softer material—probably the gardened regolith that resulted from the intensive meteor bombardments of the planet's earliest years. A tremendous weight is deposited on the surface of the planet, you see, and this weight increases as the volcano grows. As we all know now, it is a very, very big volcano. And eventually the weight is so great that it squishes out the softer material beneath it. We find this material to the northeast, which is the downhill side of the Tharsis bulge, and is naturally the side that the pressured rock would be pushed out to. Have any of you visited the Olympus Mons aureole?" Several of the climbers nod. "Fascinating region."

"Okay," Arthur says, "but why wouldn't that just sink the whole area? I would think that there would be a depression circling the edge of the volcano, rather than this cliff."

"Exactly!" Stephan cries.

But Hans is shaking his head, a smile on his face. He gestures for the brandy flask again. "The point is, the lava shield of Olympus Mons is a single unit of rock—layered, admittedly, but essentially one big cap of basalt, placed on a slightly soft surface. Now by far the greatest part of the weight of this cap is near the center—the volcano's peak, you know, still so far above us. So—the cap is a unit, a single piece of

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rock—and basalt has a certain flexibility to it, as all rock does. So the cap itself is somewhat flexible. Now, the center of the cap sinks the farthest, being heaviest—and the outside edge of the shield, being part of a single flexible cap, *bends upward.*"

"Up twenty thousand feet?" Arthur demands, incredulous. "You're kidding!"

Hans shrugs. "You must remember that the volcano stands twenty-five kilometers above the surrounding plains. The volume of the volcano is one hundred times the volume of Earth's largest volcano, Mauna Loa, and for three billion years at least it has been pressing down on this spot."

"But it doesn't make sense that the scarp would be so symmetrical if that was what happened," Frances objected.

"On the contrary. In fact that is the really wonderful aspect of it. The outer edge of the lava shield is lifted up, okay? Higher and higher, until the flexibility of the basalt is *exceeded.* In other words, the shield is just so flexible and no more. At the point where the stress becomes too much, the rock sheers off, and the inner side of the break continues to rise, while what is beyond the break point subsides. So, the plains down below us are still part of the lava aureole of Olympus Mons, but they are beyond the break point. And as the lava was everywhere approximately the same thickness, it gave away everywhere at about the same distance from the peak, giving us the roughly circular escarpment, which we now climb!"

Hans waves a hand with an architect's pride. Frances sniffs. Arthur says, "It's hard to believe." He taps the floor. "So the other half of this cave is underneath the talus wash down there?"

"Exactly!" Hans beams. "Though the other half was never a cave. This was probably a small, roughly circular layer of tuff, trapped in much harder basaltic lava. But when the shield broke and the escarpment was formed, the tuff deposit was cut in half, exposing its side to erosion. And a few eons later we have our cozy cave."

"Hard to believe," Arthur says again.

Roger sips from the flask and silently agrees with Arthur. It's remarkable how difficult it is to transfer the areologist's theories, in which mountains act like plastic or toothpaste, to the vast hard basalt reality underneath and above them. "It's the amount of time necessary for these transformations that's difficult to imagine," he says aloud. "It must take . . ." he waves a hand.

"Billions of years," Hans says. "We cannot properly imagine that amount of time. But we can see the sure signs of its passing."

And in three centuries we can destroy those signs, Roger says silently. Or most of them. And make a park instead.

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Above the cave the cliff face lays back a bit, and the smoothness of the Jasper Band is replaced by a jumbled, complicated slope of ice gullies, buttresses, and shallow horizontal slits that mimic their cave below. These steps, as they call them, are to be avoided like crevasses on level ground, as the overhanging roof of each is a serious obstacle. The ice gullies provide the best routes up, and it becomes a matter of navigating up what appears to be a vertical delta, like the tracing of a lightning bolt burned into the face and then frozen. Every morning as the sun hits the face there is an hour or so of severe ice and rock fall, and in the afternoons in the hour after the sun leaves the face there is another period of rockfall. There are some close calls and one morning Hannah is hit by a chunk of ice in the chest, bruising her badly. "The trick is to stay in the moat between the ice in the gully and the rock wall," Marie says to Roger as they retreat down a dead-end couloir.

"Or to be where you want to be by the time the sun comes up," Dougal adds. And on his advice to Eileen, they begin rising long before dawn to make the exposed parts of the climb. In the frigid dark a wristwatch alarm beeps. Roger twists in his bag, trying to turn it off; but it is his tent mate's. With a groan he sits up, reaches over and switches on his stove. Soon the metal rings in the top of the cubical stove are glowing a friendly warm orange, heating the tent's air and giving a little bit of light to see by. Eileen and Stephan are sitting in their bags, beating sleep away. Their hair is tousled, their faces lined, puffy, tired. It is three A.M. Eileen puts a pot of ice on the stove, dimming their light. She turns on a lamp to its lowest illumination, which is still enough to make Stephan groan. Roger digs in a food pouch for tea and dried milk. Breakfast is wonderfully warming, but suddenly he has to visit the cave's convenient yet cold latrine. Boots on—the worst part of dressing. Like sticking one's feet into iceblocks. Then out of the warm tent into the intense cold of the cave's air. Through the dark to the latrine. The other tents glow dimly; time for another dawn assault on the upper slopes.

By the time Archimedes, the first dawn mirror, appears, they have been on the slopes above the cave for nearly an hour, climbing by the light of their helmet lamps. The mirror dawn is better; there is enough light to see well, and yet the rock and ice have not yet been warmed enough to start falls. Roger climbs the ice gullies using crampons; he enjoys using them, kicking into the plastic ice with the front points of the crampons, and adhering to the slopes as if glued to them. Below him Arthur keeps singing a song in tribute to his crampons: "Spiderman, Spiderman, Spiderman, Spidermannnnn. . . ." But once above the fixed ropes, there is no extra breath for singing; the lead climbing is extremely difficult. Roger finds himself spread-eagled on one pitch, right foot spiked

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into the icefall, left foot digging into a niche the size of his toenail; left hand holding the shaft of the ice axe, which is firmly planted in the icefall above, and right hand laboriously turning the handle of an ice screw, which will serve as piton in this little couloir: and for a moment he realizes he is ten meters above the nearest belay, *hanging there by three tiny points*. And gasping for breath.

At the top of that pitch there is a small outcropping to rest on, and when Eileen pulls herself up the fixed rope she finds Roger and Arthur laid out over the rock in the morning sunlight like fish set out to dry. She surveys them as she catches her wind, gasping herself. "Time for oxygen," she declares. In the midday radio call she tells the next teams up to bring oxygen bottles along with the tents and other equipment for the next camp.

With three camps established above the cave, which serves as a sort of base camp to return to from time to time, they are making fair progress. Each night only a few of them are in any given camp. They are forced to use oxygen for almost all of the climbing, and most of them sleep with a mask on, the regulator turned to its lowest setting. The work of setting up the high camps, which they try to do without oxygen, becomes exhausting and cold. When the camps are set and the day's climbing is done, they spend the shadowed afternoons wheezing around the camps, drinking hot fluids and stamping their feet to keep them warm, waiting for the sunset radio call and the next day's orders. At this point it's a pleasure to leave the thinking to Eileen.

One afternoon climbing above the highest camp with Eileen, Roger stands facing out as he belays Eileen's lead up a difficult pitch. Thunderheads like long-stemmed mushrooms march in lines blown to the northeast. Only the tops of the clouds are higher than they. It is late afternoon and the cliff-face is a shadow. The cottony trunks of the thunderheads are dark, shadowed gray—then the thunderheads themselves bulge white and gleaming into the sunny sky above, actually casting some light back onto the cliff. Roger pulls the belay rope taut, looks up at Eileen. She is staring up her line of attack, which has become a crack in two walls meeting at ninety degrees. Her oxygen mask covers her mouth and nose. Roger tugs once—she looks down—he points out at the immense array of clouds. She nods, pulls the mask to one side. "Like ships!" she calls down. "Ships of the line!"

Roger pulls his mask over a cheek. "Do you think a storm might come?"

"I wouldn't be surprised. We've been lucky so far." She replaces her mask and begins a layback, shoving the fingers of both hands in the crack, putting the soles of both boots against the wall just below her

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hands, and pulling herself out to the side so that she can walk sideways up one of the walls. Roger keeps the belay taut.

Mars's prevailing westerlies strike Olympus Mons, and the air rises, but does not flow over the peak; the mountain is so tall it protrudes out of much of the atmosphere, and the winds are therefore pushed around each side. Compressed in that way, the air comes swirling off the eastern flank cold and dry, having dumped its moisture on the western flank, where glaciers form. This is the usual pattern, anyway; but when a cyclonic system sweeps out of the southwest, it strikes the volcano a glancing blow from the south, compresses, lashes the southeast quadrant of the shield, and rebounds to the east intensified.

"What's the barometer say, Hans?"

"Six hundred millibars."

"You're kidding!"

"That's not too far below normal, actually."

"You're kidding."

"It is low, however. I believe we are being overtaken by a low-pressure system."

The storm begins as katabatic winds: cold air falling over the edge of the escarpment and dropping toward the plain. Sometimes the force of the west wind over the plateau of the shield blows the gusts out beyond the actual cliff face, which will then stand in perfect stillness. But the slight vacuum fills again with a quick downward blast, that makes the tents boom and stretch their frames. Roger grunts as one almost squashes the tent, shakes his head at Eileen. She says, "Get used to it—there are downdrafts hitting the upper face more often than not." WHAM! "Although this one does seem to be a bit stronger than usual. But it's not snowing, is it?"

Roger looks out the little tent door window. "Nope."

"Good."

"Awful cold, though." He turns in his sleeping bag.

"That's okay. Snow would be a really bad sign." She gets on the radio and starts calling around. She and Roger are in Camp 8 (the cave is now called Camp 6); Dougal and Frances are in Camp 9, the highest and most exposed of the new camps; Arthur, Hans, Hannah, and Ivan are in Camp 7; and the rest are down in the cave. They are a little overextended, as Eileen has been loath to pull the last tents out of the cave. Now Roger begins to see why. "Everyone stay inside tomorrow morning until they hear from me at mirror dawn. We'll have another conference then."

The wind rises through the night, and Roger is awakened at three A.M.

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by a particularly hard blast to the tent. There is very little sound of the wind against the rock—then a BANG and suddenly the tent is whistling and straining like a tortured thing. It lets off and the rocks hoot softly. Settle down and listen to the airy breathing WHAM, the squealing tent is driven down into the niche they have set it in—then sucked back up. The comforting hiss of the oxygen mask, keeping his nose warm for once—WHAM. Eileen is apparently sleeping, her head buried in her sleeping bag; only her bunting cap and the oxygen hose emerge from the drawn-up opening at the top. Roger can't believe the gunshot slaps of the wind don't wake her. He checks his watch, decides it is futile to try falling back asleep. New frost condensation on the inside of the tent falls on his face like snow, scaring him for a moment. But a flashlight gleam directed out the small clear panel in the tent door reveals there is no snow. By the dimmest light of the lamp Roger sets their pot of ice on the square bulk of the stove and turns it on. He puts his chilled hands back in the sleeping bag to watch the stove heat up. Quickly the rings under the pot are a bright orange, palpably radiating heat.

An hour later it is considerably warmer in the tent. Roger sips hot tea, tries to predict the wind's hammering. The melted water from the cave's ice apparently has some silt in it; Roger, along with three or four of the others, has had his digestion upset by the silt, and now he feels a touch of the glacial dysentery coming on. Uncomfortably he quells the urge. Some particularly sharp blows to the tent wake Eileen; she sticks her head out of her bag, looking befuddled.

"Wind's up," Roger says. "Want some tea?"

"Mmmph." She pulls away her oxygen mask. "Yeah." She takes a full cup and drinks. "Thirsty."

"Yeah. The masks seem to do that."

"What time is it?"

"About four."

"Ah. My alarm must have woken me. Almost time for the call."

Although it is cloudy to the east, they still get a distinct increase of light when Archimedes rises. Roger pulls on his cold boots and groans. "Gotta go," he says to Eileen, and unzips the tent just far enough to get out.

"Stay harnessed up!"

Outside, one of the katabatic blasts shoves him hard. It's very cold, perhaps 20 degrees Celsius below, so that the wind chill factor when it is blowing hardest is extreme. Unfortunately, he does have a touch of the runs. Much relieved, and very chilled, he pulls his pants up and steps back into the tent. Eileen is on the radio. People are to stay inside until the winds abate a little, she says. Roger nods vigorously. When she is done she laughs at him. "You know what Dougal would say."

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"Oh, it was very invigorating all right."
She laughs again.

Time passes. When he warms back up Roger dozes off. It's actually easier to sleep during the day, when the tent is warmer.

He is rudely awakened late in the morning by a shout from outside. Eileen jerks up in her bag and unzips the tent door. Dougal sticks his head in, pulls his oxygen mask onto his chest, frosts them with hard breathing. "Our tent has been smashed by a rock," he says, almost apologetically. "Frances has got her arm broke. I need some help getting her down."

"Down where?" Roger says involuntarily.

"Well, I thought to the cave, anyway. Or at least to here—our tent's crushed, she's pretty much out in the open right now—in her bag, you know, but the tent's not doing much."

Grimly Eileen and Roger begin to pull their climbing clothes on.

Outside the wind rips at them and Roger wonders if he can climb. They clip onto the rope and jumar up rapidly, moving at emergency speed. Sometimes the blasts of wind from above are so strong that they can only hang in against the rock and wait. During one blast Roger becomes frightened—it seems impossible that flesh and bone, harness, jumar, rope, piton, and rock will all hold under the immense pressure of the downdraft. But all he can do is huddle in the crack the fixed rope follows and hope, getting colder every second.

They enter a long snaking ice gully that protects them from the worst of the wind, and make better progress. Several times rocks or chunks of ice fall by them, dropping like bombs or giant hailstones. Dougal and Eileen are climbing so fast that it is difficult to keep up with them. Roger feels weak and cold; even though he is completely covered, his nose and fingers feel frozen. His intestines twist a little as he crawls over a boulder jammed in the gully, and he groans. Better to have stayed in the tent on this particular day.

Suddenly they are at Camp 9—one big box tent, flattened at one end. It is flapping like a big flag in a gale, cracking and snapping again and again, nearly drowning out their voices. Frances is glad to see them; under her goggles her eyes are red-rimmed. "I think I can sit up in a sling and rappel down if you can help me," she says over the tent noise.

"How are you?" asks Eileen.

"The left arm's broken just above the elbow. I've made a bit of a splint for it. I'm awfully cold, but other than that I don't feel too bad. I've taken some painkillers, but not enough to make me sleepy."

They all crowd in what's left of the tent and Eileen turns on a stove.

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Dougal dashes about outside, vainly trying to secure the open end of the tent and end the flapping. They brew tea and sit in sleeping bags to drink it. "What time is it?" "Two." "We'd better be off soon." "Yeah."

Getting Frances down to Camp 8 is slow, cold work. The exertion of climbing the fixed ropes at high speed was just enough to keep them warm on the climb up; now they have to hug the rock and hold on, or wait while Frances is belayed down one of the steeper sections. She uses her right arm and steps down everything she can, helping the process as much as possible.

She is stepping over the boulder that gave Roger such distress, when a blast of wind hits her like a punch, and over the rock she tumbles, face against it. Roger leaps up from below and grabs her just as she is about to roll helplessly onto her left side. For a moment all he can do is hang there, holding her steady. Dougal and Eileen shout down from above. No room for them. Roger double-sets the jumar on the fixed rope above him, pulls up with one arm, the other around Frances's back. They eye each other through the goggles—she scrambles for a foothold blindly—finds something and takes some of her weight herself. Still, they are stuck there. Roger shows Frances his hand and points at it, trying to convey his plan. She nods. He unclips from the fixed rope, sets the jumar once again right below Frances, descends to a good foothold and laces his hands together. He reaches up, guides Frances's free foot into his hands. She shifts her weight onto that foot and lowers herself until Roger keeps the hold in place. Then the other foot crosses to join Roger's two feet—a good bit of work by Frances, who must be hurting. Mid-move another gust almost wrecks their balance, but they lean into each other and hold. They are below the boulder, and Dougal and Eileen can now climb over it and belay Frances again.

They start down once more. But the exertion has triggered a reaction inside Roger, and suddenly he has to take a shit. He curses the cave silt and tries desperately to quell the urge, but it won't be denied. He signals his need to the others and jumars down the fixed rope away from them, to get out of the way of the descent and obtain a little privacy. Pulling his pants down while the winds drag him around the fixed rope is actually a technical problem, and he curses continuously as he relieves himself. It is without a doubt the coldest shit of his life. By the time the others get to him he is shivering so hard he can barely climb.

They barge into Camp 8 around sunset, and Eileen gets on the radio. The lower camps are informed of the situation and given their instructions. No one questions Eileen when her voice has that edge in it.

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The problem is that their camp is low on food and oxygen. "I'll go down and get a load," Dougal says.

"But you've already been out a long time," Eileen says.

"No, no. A hot meal and I'll be off again. You should stay here with Frances, and Roger's chilled down."

"We can get Arthur or Hans to come up."

"We don't want movement up, do we? They'd have to stay up here, and we're out of room as it is. Besides, I'm the most used to climbing in this wind in the dark."

Eileen nods. "Okay."

"You warm enough?" Dougal asks Roger.

Roger can only shiver. They help him into his bag and dose him with tea, but it is hard to drink. Long after Dougal has left he is still shivering.

"Good sign he's shivering," Frances says to Eileen. "But he's awfully cold. Maybe too hypothermic to warm up. I'm cold myself."

Eileen keeps the stove on high till there is a fug of warm air in the tent. She gets into Frances's bag with her, carefully avoiding her injured side. In the ruddy stove light their faces are pinched with discomfort.

"I'm okay," Frances mutters after a while. "Good'n warm. Get him."

Roger is barely conscious as Eileen pushes into his bag with him. He is resentful that he must move. "Get your outers off," Eileen orders. They struggle around, half in the bag, to get Roger's climbing gear off. Lying together in their thermal underwear, Roger slowly warms up. "Man, you *are* cold," Eileen says.

" 'Preciate it," Roger mutters wearily. "Don't know what happened."

"We didn't work you hard enough on the descent. Plus you had to bare your butt to a wind chill factor I wouldn't want to guess."

Body warmth, seeping into him. Long hard body pressed against him. She won't let him sleep. "Not yet. Turn around. Here. Drink this." Frances holds his eyelids up to check him. "Drink this!" He drinks. Finally they let him sleep.

Dougal wakes them, barging in with a full pack. He and the pack are crusted with snow. "Pretty desperate," he says with a peculiar smile. He hurries into a sleeping bag and drinks tea. Roger checks his watch—midnight. Dougal has been at it for almost twenty-four hours, and after wolfing down a pot of stew he puts on his mask, rolls to a corner of the tent, and falls into a deep sleep.

Next morning the storm is still battering the tent. The four of them get ready awkwardly—the tent is better for three, and they must be careful of Frances's arm. Eileen gets on the radio and orders those below to clear Camp 7 and retreat to the cave. Once climbing they find that

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Frances's whole side has stiffened up. Getting her down means they have to hammer in new pitons, set up rappeling ropes for her, lower her with one of them jumaring down the fixed rope beside her, while occasionally hunkering down to avoid hard gusts of wind. They stop in Camp 7 for an hour to rest and eat, then drop to the cave. It is dusk by the time they enter the dark refuge.

So they are all back in the cave. The wind swirls in it, and the others have spent the previous day piling rocks into the south side of the cave mouth, to build a protective wall. This helps a bit.

As the fourth day of the storm passes in the whistle and flap of wind, and an occasional flurry of snow, all the members of the climb crowd into one of the large box tents, sitting upright and bumping arms so they will all fit.

"Look, I don't want to go down just because one of us has a busted arm," Marie says.

"I can't climb," says Frances. It seems to Roger that she is holding up very well; her face is white and her eyes look drugged, but she is quite coherent and very calm.

"I *know* that," Marie says. "But we could split up. It'll only take a few people to get you back down to the cars. The rest of us can take the rest of the gear and carry on. If we get to the cache at the top of the scarp, we won't have to worry about supplies. If we don't, we'll just follow you down. But I don't fancy us giving up now—that's not what we came for, eh? Going down when we don't have to?"

Eileen looks at Ivan. "It'd be up to you to get Frances down."

Ivan grimaces, nods. "That's what Sherpas are for," he says gamely.

"Do you think four will be enough for it?"

"More would probably just get in the way."

There is a quick discussion of their supply situation. Hans is of the opinion that they are short enough on supplies to make splitting up dangerous. "It seems to me that our primary responsibility is to get Frances to the ground safely. The climb can be finished another time."

Marie argues with this, but Hans is supported by Stephan, and it seems neither side will convince the other. After an apprehensive silence, Eileen clears her throat.

"Marie's plan sounds good to me," she says briefly. "We've got the supplies to go both ways, and the Sherpas can get Frances down by themselves."

"Neither group will have much margin for error," Hans says.

"We can leave the water for the group going down," Marie says. "There'll be ice and snow the rest of the way up."

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"We'll have to be a bit more sparing with the oxygen," Hans says. "Frances should have enough to take her all the way down."

"Yes," Eileen says. "We'll have to get going again in the next day or two, no matter what the weather's like."

"Well?" says Marie. "We've proved we can get up and down the fixed ropes in any weather. We should get up and fix Camp 9 as soon as we can. Tomorrow, say."

"If there's a bit of a break."

"We've got to stock the higher camps—"

"Yeah. We'll do what we can, Marie. Don't fret."

While the storm continues they make preparations to split up. Roger, who wants to stay clear of all that, helps Arthur to build the wall at the cave's entrance. They have started at the southern end, filling up the initial crack of the cave completely. After that they must be satisfied with a two-meter-high wall, which they extend across the entrance until the boulders on the floor of the cave are used up. Then they sit against the wall and watch the division of the goods. Wind still whistles through the cave, but sitting at the bottom of the wall they can feel that they did some good.

The division of equipment is causing some problems. Marie is very possessive about the oxygen bottles: "Well, you'll be going down, right?" she demands of Ivan. "You don't need oxygen at all once you get a couple camps down."

"Frances will need it a lot longer than that," Ivan said. "And we can't be sure how long it'll take to get her down."

"Hell, you can *reel* her down once you get past the Thank God Ledge. Shouldn't take you any time at all—"

"Marie, get out of this," Eileen snaps. "We'll divide the supplies—there's no reason for you to bother with this."

Marie glares, stomps off to her tent.

Arthur and Roger give each other the eye. The division goes on. Rope will be the biggest problem, it appears. But everything will be tight.

At the first break in the winds the rescue party—Frances and the four Sherpas—take off. Roger descends with them to help them cross the Thank God Ledge, and to recover the fixed rope there. The wind still gusts, but with less violence. In the middle of the ledge crossing Frances loses her balance and swings around; Roger reaches her (not noticing he ran) and holds her in. "We have to stop meeting like this," Frances says, voice muffled by her mask.

When they reach the Great Gully, Roger says his good-byes. The Sherpas are cheery enough, but Frances is white-faced and quiet. She has

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said hardly a word in the last couple of days, and Roger cannot tell what she is thinking. "Bad luck," he tells her. "You'll get another chance, though."

"Thanks for grabbing me during the descent from Camp 9," she says just as he is about to leave. She looks upset. "You're awfully quick. That would have hurt like hell if I had rolled onto my left side."

"I'm glad I could help," Roger says. Then, as he leaves: "I like how tough you've been."

A grimace from Frances.

On the way back Roger must free the fixed rope to recover it for the climb above, and so on the Thank God Ledge he is always belayed only to the piton ahead. If he were to fall he would drop—sometimes up to twenty-five meters—and swing like a pendulum over the rough basalt. The ledge becomes new again; he finds that the smooth surface of the sidewalk is indeed wide enough to walk on, but still—the wind pushes at his back—he is alone—the sky is low and dark, and threatens to snow—and all of a sudden the hair on his neck rises, the oxygen whistles in his mask as he sucks it down, the pitted rock face seems to glow with an internal light of its own, and all the world expands, expands ever outward, growing more immense with every pulse of his blood; and his lungs fill, and fill, and fill. . . .

Back in the cave Roger says nothing about the eerie moment on the ledge. Only Eileen and Hans are still in the cave—the others have gone up to supply the higher camps, and Dougal and Marie have gone all the way up to Camp 9. Eileen, Hans and Roger load up their packs—very heavy loads, they find when they duck out the cave—and start up the fixed ropes. Jumaring up the somewhat icy rope is difficult, in places dangerous. The wind strikes from the left now rather than from above. By the time they reach Camp 7 it is nearly dark, and Stephan and Arthur already occupy the single tent. In the mirror dusk and the strong side wind, erecting another tent is no easy task. There is not another level spot to set it on, either—they must place it on a slope, and tie it to pitons hammered into the cliff. By the time Eileen and Roger and Hans get into the new tent, Roger is freezing and starving and intensely thirsty. "Pretty bloody desperate," he says wearily, mimicking Marie and the Sherpas. They melt snow and cook up a pot of stew from their sleeping bags, and when they are done eating, Roger puts on his oxygen mask, sets the flow for sleep, and slumps off.

The moment on the Thank God Ledge jumps to mind and wakes him momentarily. Wind whips the taut walls of the tent, and Eileen, pencilling logistic notes for the next day, slides down the slope under the

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tent until their two sleeping bags are one clumped mass. Roger looks at her: brief smile from that tired, puffy, frost-burned face. Great deltas of wrinkles under her eyes. His feet begin to warm up and he falls asleep to the popping of the tent, the hiss of oxygen, the scratching of a pencil.

That night the storm picks up again.

The next morning they take down the tent in a strong wind—hard work—and start portering loads up to Camp 8. Halfway between camps it begins to snow. Roger watches his feet through swirls of hard dry granules. His gloved fingers twist around the frigid jumar, sliding it up the frosted rope, clicking it home, pulling himself up. It is a struggle to see footholds in the spindrift, which moves horizontally across the cliff face, from left to right as he looks at it. The whole face appears to be whitely streaming to the side, like a wave. He finds he must focus his attention entirely on his hands and feet. His fingers, nose and toes are very cold. He rubs his nose through the mask, feels nothing. The wind pushes him hard, like a giant trying to make him fall. In the narrow gullies the wind is less strong, but they find themselves climbing up through waves of avalanching snow, drift after drift of it piling up between their bodies and the slope, burying them, sliding between their legs and away. One gully seems to last forever. Intermittently Roger is concerned about his nose, but mostly he worries about the immediate situation: moving up the rope, keeping a foothold. Visibility is down to about fifty meters—they are in a little white bubble flying to the left through white snow, or so it appears.

At one point Roger must wait for Eileen and Hans to get over the boulder that Frances had such trouble with. His mind wanders and it occurs to him that their chances of success have shifted radically—and with them, the nature of the climb. Low on supplies, facing an unknown route in deteriorating weather—Roger wonders how Eileen will handle it. She has led expeditions before, but this kind only come about by accident.

She passes him going strong, beats ice from the rope, sweeps spindrift from the top of the boulder. Pulls up over it in one smooth motion. The wind cuts through Roger as he watches Hans repeat the operation: cuts through the laminated outer suit, the thick bunting inner suit, his skin. . . . He brushes spindrift from his goggles with a frigid hand and heaves up after them.

Though it is spring, the winter-like low-pressure system over Olympus Mons is in place, drawing the wet winds up from the south, creating stable storm conditions on the south and east arcs of the escarpment. The snow is irregular, the winds constant. For the better part of a week

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the seven climbers left on the face struggle in the miserable conditions. One night at sunset radio hour they hear from Frances and the Sherpas, down at base camp. There is a lot of sand in Martian snow, and their voices are garbled by static, but the message is clear: they are down, they are safe, they are leaving for Alexandria to get Frances's arm set. Roger catches on Eileen's averted face an expression of pure relief, and realizes that her silence in the past few days has been a manifestation of worry. Now, looking pleased, she gives the remaining climbers their instructions for the next day, in a fresh, determined tone.

Into camp at night, cold and almost too tired to walk. Big loaded packs onto the various ledges and niches that serve for this particular camp. Hands shaking with hunger. This camp—number 13, Roger believes—is on a saddle between two ridges overlooking a deep, twisted chimney. "Just like the Devil's Kitchen on Ben Nevis," Arthur remarks when they get inside the tent. He eats with gusto. Roger shivers and puts his hands two centimeters above the glowing stove ring. Transferring from climbing mode to tent mode is a tricky business, and tonight Roger hasn't done so well. At this altitude and in these winds, cold has become their most serious opponent. Overmitts off, and everything must be done immediately to get lightly gloved hands protected again as quickly as possible. Even if the rest of one's body is warmed by exertion, the finger tips will freeze within a few minutes. Yet so many camp operations can be done easier with hands out of mitts. Frostnip is the frequent result, leaving the fingers tender, so that pulling up a rockface, or even buttoning or zipping one's clothes, becomes a painful task. Frostnip blisters kill the skin, creating black patches that take a week or more to peel away. Now when they sit in the tents around the ruddy light of the stove, observing solemnly the progress of the cooking meal, they see across the pot faces blotched on cheek or nose: black skin peeling away to reveal bright new skin beneath. . . .

They climb onto a band of rotten rock, a tuff and lava composite that sometimes breaks right off in their hands. It takes Marie and Dougal two full days to find decent belay points for the hundred and fifty meters of the band, and every morning the rockfall is frequent and frightening. "It's a bit like swimming up the thing, isn't it?" Dougal comments. When they make it to the hard rock above, Eileen orders Dougal and Marie to the bottom of their "ladder," to get some rest. Marie makes no complaint now; each day in the lead is an exhausting exercise, and Marie and Dougal are beat.

Every night Eileen works out plans for the following day, revising them as conditions and the climbers' strength and health change. The

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logistics are complicated, and each day the seven climbers shift partners and positions in the climb. Eileen scribbles in her notebook and jabbers on the radio every dusk, altering the schedules and changing her orders with almost every new bit of information she receives from the higher camps. Her method appears chaotic. Marie dubs her the "Mad Mahdi," and scoffs at the constant change in plans; but she obeys them, and they work: every night they are scattered in two or three camps up and down the cliff, with everything that they need to survive the night, and get them higher the next day; and every new day they leap-frog up, pulling out the lowest camp, finding a place to establish a new high camp. The bitter winds continue. Everything is difficult. They lose track of camp numbers, and name them only high, middle, and low.

Naturally, three quarters of everyone's work is portering—carrying heavy loads up the fixed ropes of routes already established. Roger begins to feel that he is surviving the rigors of the weather and altitude better than most of the rest; he can carry more faster, and even though most days end in that state where each step up is ten breaths' agony, he finds he can take on more the next day. His digestion returns to normal, which is a blessing—a great physical pleasure, in fact. Perhaps improvement in this area masks the effects of altitude, or perhaps the altitude isn't bothering Roger yet; it is certainly true that high altitude affects people differently, for reasons unconnected with basic strength—in fact, for reasons not yet fully understood.

So Roger becomes the chief porter; Dougal calls him Roger Sherpa, and Arthur calls him Tenzing. The day's challenge becomes to do all the myriad activities of the day as efficiently as possible, without frostnip, without excessive discomfort, hunger, thirst, or exhaustion. He hums to himself little snatches of music. His favorite is the eight-note phrase repeated by the basses near the end of the first movement of Beethoven's Ninth: six notes down, two notes up, over and over and over. And each evening in the sleeping bag, warm, well-fed, and prone, is a little victory.

One night he wakes up to darkness and silence, fully awake in an instant, heart pounding. Confused, he thinks he may have dreamt of the Thank God Ledge. But then he notices the silence again and realizes his oxygen bottle has run out. It happens every week or so. He uncouples the bottle from the regulator, finds another bottle in the dark and clips it in place. When he tells Arthur about it next morning, Arthur laughs. "That happened to me a couple nights ago. I don't think anybody could sleep through their oxygen bottle running out—I mean you wake up *very* awake, don't you?"

* * *

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In the hard rock band Roger porters up a pitch that leaves him whistling into his mask: the gullies have disappeared, above is a nearly vertical black wall, and breaking it is one lightning bolt crack, now marked by a fixed rope with slings attached, making it a sort of rope ladder. Fine for him, but the lead climb! "Must have been Dougal at it again."

And the next day he is out in the lead himself with Arthur, on a continuation of the same face. Leading is very unlike portering. Suddenly the dogged, repetitious, almost mindless work of carrying loads is replaced by the anxious attentiveness of the lead. Arthur takes the first pitch and finishes it bubbling over with enthusiasm. Only his oxygen mask keeps him from carrying on a long conversation as Roger takes over the lead. Then Roger is up there himself, above the last belay on empty rock, looking for the best way. The lure of the lead returns, the pleasure of the problem solved fills him with energy. Fully back in lead mode, he collaborates with Arthur—who turns out to be an ingenious and resourceful technical climber—on the best storm day yet: five hundred meters of fixed rope, their entire supply, nailed up in one day. They hurry back down to camp and find Eileen and Marie still there, dumping food for the next few days.

"By God are we a team!" Arthur cries as they describe the day's work. "Eileen, you should put us together more often. Don't you agree, Roger?"

Roger grins at Eileen, nods. "That was fun."

Marie and Eileen leave for the camp below, and Arthur and Roger cook a big pot of stew and trade climbing stories, scores of them: and every one ends, "but that was nothing compared to today."

Heavy snow returns and traps them in their tents, and it's all they can do to keep the high camp supplied. "Bloody desperate out!" Marie complains, as if she can't believe how bad it is. After one bad afternoon Stephan and Arthur are in the high camp, Eileen and Roger in the middle camp, and Hans, Marie, and Dougal in the low camp with all the supplies. The storm strikes Roger and Eileen's tent so hard that they are considering bringing in some rocks to weight it down more. A buzz sounds from their radio and Eileen picks it up.

"Eileen, this is Arthur. I'm afraid Stephan has come up too fast."

Eileen scowls fearfully, swears under her breath. Stephan has gone from low camp to the high one in two hard days' climbing.

"He's very short of breath, and he's spitting up bloody spit. And talking like a madman."

"I'm okay!" Stephan shouts through the static. "I'm fine!"

"Shut up! You're not fine! Eileen, did you hear that? I'm afraid he's got edema."

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"Yeah," Eileen says. "Has he got a headache?"

"No. It's just his lungs right now, I think. Shut up! I can hear his chest bubbling, you know."

"Yeah. Pulse up?"

"Pulse weak and rapid, yeah."

"Damn." Eileen looks over at Roger. "Put him on maximum oxygen."

"I already have. Still . . ."

"I know. We've got to get him down."

"I'm okay!"

"Yeah," Arthur says. "He needs to come down, at least to your camp, maybe lower."

"Damn it," Eileen exclaims when off the radio. "I moved him up too fast."

An hour later—calls made below, the whole group in action—Roger and Eileen are out in the storm again, in the dark, their helmet headlights showing them only a portion of the snowfall. They cannot afford to wait until morning—pulmonary edema can be quickly fatal, and the best treatment by far is to get the victim lower, where his lungs can clear out the excess water. Even a small drop in altitude can make a dramatic difference. So off they go; Roger takes the lead and bashes ice from the rope, jumars up, scrabbles over the rock blindly with his crampon-tips to get a purchase in the snow and ice. It is bitterly cold, and his goggles allow the cold onto his eyes. They reach the bottom of the blank wall pitch that so impressed Roger, and the going is treacherous. He wonders how they will get Stephan down it. The fixed rope is the only thing making the ascent possible, but it does less and less to aid them as ice coats it and the rock face. Wind hammers them, and Roger has a sudden acute sensation of the empty space behind them. The headlight beams reveal only swirling snow. Fear adds its own kind of chill to the mix. . . .

By the time they reach high camp Stephan is quite ill. No more protests from him. "I don't know how we'll get him down," Arthur says anxiously. "I gave him a small shot of morphine to get the peripheral veins to start dilating."

"Good. We'll just have to truss him into a harness and lower him."

"Easier said than done, in this stuff."

Stephan is barely conscious, coughing and hacking with every breath. Pulmonary edema fills the lungs with water; unless the process is reversed, he will drown. Just getting him into the sling (another function of the little wall tents) is hard work. Then outside again—struck by the wind—and to the fixed ropes. Roger descends first, Eileen and Arthur lower Stephan using a power reel, and Roger collects him like a large bundle of laundry. After standing him upright and knocking the frozen

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spittle from the bottom of his mask, Roger waits for the other two, and when they arrive he starts down again. The descent seems endless, and everyone gets dangerously cold. Windblown snow, the rock face, omnipresent cold: nothing else in the world. At the end of one drop Roger cannot undo the knot at the end of his belay line, to send it back up for Stephan. For fifteen minutes he struggles with the frozen knot, which resembles a wet iron pretzel. Nothing to cut it off with, either. For a while it seems they will all freeze because he can't untie a knot. Finally he takes his climbing gloves off and pulls at the thing with his bare fingers until it comes loose.

Eventually they arrive at the lower camp, where Hans and Dougal are waiting with a medical kit. Stephan is zipped into a sleeping bag, and given a diuretic and some more morphine. Rest and the drop in altitude should see him back to health, although at the moment his skin is blue and his breathing ragged: no guarantees. He could die—a man who might live a thousand years—and suddenly their whole enterprise seems crazy. His coughs sound weak behind the oxygen mask, which hisses madly on maximum flow.

"He should be okay," Hans pronounces. "Won't know for sure for several hours."

But there they are—seven people in two wall tents. "We'll go back up," Eileen says, looking to Roger. He nods.

And they go back out again. The swirl of white snow in their headlights, the cold, the buffets of wind . . . they are tired, and progress is slow. Roger slips once and the jumars don't catch on the icy rope for about three meters, where they suddenly catch and test his harness, and the piton above. A fall! The spurt of fear gives him a second wind. Stubbornly he decides that much of his difficulty is mental. It's dark and windy, but really the only difference between this and his daytime climbs during the last week is the cold, and the fact that he can't see much. But the helmet lamps do allow him to see—he is at the center of a shifting white sphere, and the rock he must work on is revealed. It is covered with a sheet of ice and impacted snow, and where the ice is clear it gleams in the light like glass laid over the black rock beneath. Crampons are great in this—the sharp front points stick in the snow and ice firmly, and the only problem is the brittle black glass that will break away from the points in big jagged sheets. Even black ice can be distinguished in the bright bluish gleam of the lights, so the work is quite possible. Look at it as just another climb, he urges himself, meanwhile kicking like a maniac with his left foot to spike clear a crack where he can nail in another piton to replace a bad hold. The dizzying freeness of a pull over an outcropping; the long reach up for a solid knob: he becomes aware of

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the work as a sort of game, a set of problems to be solved despite cold or thirst or fatigue (his hands are beginning to tire from the long night's hauling, so that each hold hurts). Seen this way, it all changes. Now the wind is an opponent to be beaten, but also to be respected. The same of course is true of the rock, his principal opponent—and this a daunting one, an opponent to challenge him to his utmost performance. He kicks into a slope of hard snow and ascends rapidly.

He looks down as Eileen kicks up the slope: quick reminder of the stakes of this game. The light on the top of her helmet makes her look like a night insect, or a deep sea fish. She reaches him quickly; one long gloved hand over the wall's top, and she joins him with a smooth contraction of the bicep. Strong woman, Roger thinks, but decides to take another lead anyway. He is in a mood now where he doubts anyone but Dougal could lead as fast.

Up through the murk they climb.

An odd point is that the two climbers can scarcely communicate. Roger "hears" Eileen through varieties of tugging on the rope linking them. If he takes too long to study a difficult spot above, he feels a mild interrogatory tug on the rope. Two tugs when Roger is belaying means she's on her way up. Very taut belaying betrays her belief that he is in a difficult section. So communication by rope can be fairly complex and subtle. But aside from it, and the infrequent shout with the mask pulled up to one side (which includes the punishment of a face full of spindrift) they are isolated. Mute partners. The exchange of lead goes well—one passes the other with a wave—the belay is ready. Up Eileen goes. Roger watches and holds the belay taut. Little time for contemplating their situation, thankfully; but while taking a rest on crampon points in steps chopped out with his ice axe, Roger feels actuely the *thereness* of his position, cut off from past or future, irrevocably in this moment, on this cliff face that drops away bottomlessly, extends up forever. Unless he climbs well, there will never be any other reality.

Then they reach a pitch where the fixed rope has been cut in the middle. Falling rock or ice has shaved it off. A bad sign. Now Roger must climb a ropeless pitch, hammering in pitons on his way to protect himself. Every meter above the last belay is two meters fall. . . .

Roger never expected this hard a climb, and adrenaline banishes his exhaustion. He studies the first small section of a pitch that he knows is ten or twelve meters long, invisible in the dark snow flurries above. Probably Marie or Dougal climbed this crack the first time. He discovers that the crack just gives him room for his hands. Almost a vertical crack for a while, with steps cut into the ice. Up he creeps, crab-like and sure-

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footed. Now the crack widens and the ice is too far back in it to be of use—but the cramponed boots can be stuck in the crack and turned sideways, to stick tenuously into the thin ice coating the crack's interior. One creates one's own staircase, mostly using the tension of the twisted crampons. Now the crack abruptly closes and he has to look around, ah, there, a horizontal crack holding the empty piton. Very good—he hooks into it and is protected thus far. Perhaps the next piton is up this rampway to the right? Clawing to find the slight indentations that pass for handholds here, crouching to lean up the ramp in a tricky walk—he wonders about the crampons here . . . ah. The next piton, right at eye level. Perfect. And then an area lined with horizontal strata about a meter in thickness, making a steep—a very steep—ladder.

And at the top of that pitch they find the high camp tent, crushed under a load of snow. Avalanche. One corner of the tent flaps miserably.

Eileen comes up and surveys the damage in the double glare of their two headlamps. She points at the snow, makes a digging motion. The snow is so cold that it can't bind together—moving it is like kicking coarse sand. They get to work, having no other choice. Eventually the tent is free, and as an added benefit they are warmed as well, although Roger feels he can barely move. The tent's poles have been bent and some broken, and splints must be tied on before the tent can be redeployed. Roger kicks snow and ice chunks around the perimeter of the tent, until it is "certifiably bombproof," as the leads would say. Except if another avalanche hits it . . . something they can't afford to think about, as they can't move the camp anywhere else. They simply have to risk it. Inside, they drop their packs and start the stove and put a pot of ice on. Then crampons off, and into sleeping bags. With the bags around them up to the waist, they can start sorting out the mess. There is spindrift on everything, but unless it gets right next to the stove it will not melt. Digging in the jumbled piles of gear for a packet of stew, Roger feels again how tired his body is. Oxygen masks off, so they can drink. "That was quite an excursion." Raging thirst. They laugh with relief. He brushes an unused pot with his bare hand, guaranteeing a frostnip blister. Eileen calculates the chance of another avalanche without trepidation: ". . . so if the wind stays high enough we should be okay." They discuss Stephan, and sniff like hunting dogs at the first scent of the stew. Eileen digs out the radio and calls down to the low camp. Stephan is sleeping, apparently without discomfort. "Morphine will do that," Eileen says. They wolf down their meal in a few minutes.

The snow under the tent is torn up by boot prints, and Roger's sleeping surface is unbelievably lumpy. He rolls over until he is wedged against the length of Eileen's bag, coveting the warmth and hoping for a flatter

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surface. It is just as lumpy there. Eileen snuggles back into him and he can feel the potential for warmth; he can tell he will warm up. He wonders if getting into one bag would be worth the effort.

"Amazing what some people will do for fun," Eileen comments drowsily.

Short laugh. "This isn't the fun part."

"Isn't it? That climb . . ."

Big yawn. "That was some climb," he agrees. No denying it.

"That was a great climb."

"Especially since we didn't get killed."

"Yeah." She yawns too, and Roger can feel a big wave of sleep about to break over him and sweep him away. "I hope Stephan gets better. Otherwise we'll have to take him down."

In the next few days everyone has to go out several times in the storm, to keep the high camp supplied and to keep the fixed ropes free of ice. The work is miserable when they can do it, and sometimes they can't: the wind on some days shuts down everything, and they can only huddle inside and hope the tents hold to the face. One dim day Roger is sitting with Stephan and Arthur in low camp. Stephan has recovered from the edema, and is anxious to climb again. "No hurry," Roger says. "No one's going anywhere anyway, and water in the lungs is serious business. You'll have to take it slow—"

The tent door is unzipped and a plume of snow enters, followed by Dougal. He grins hello. The silence seems to call for some comment: "Pretty invigorating out there," he says to fill it, and looks after a pot of tea. The shy moment having passed he chats cheerfully with Arthur about the weather. Tea done, he is off again; he is in a hurry to get a load up to the high camp. A quick grin and he is out the tent and gone. And it occurs to Roger that there are two types of climber on their expedition (another duality): those who *endure* the bad weather and accidents and all the various difficulties of the face that are making this climb so uncomfortable; and those who, in some important, peculiar way, *enjoy* all the trouble. In the former group are Eileen, who has the overriding responsibility for the climb—Marie, who is in such a hurry for the top—and Hans and Stephan, who are less experienced and would be just as happy to climb under sunny skies and with few serious difficulties. Each of these is steady and resolute, without a doubt; but they endure.

Dougal, on the other hand, Dougal and Arthur: these two are quite clearly *enjoying* themselves, and the worse things get the more fun they seem to have. It is, Roger thinks, perverse. The reticent, solitary Dougal, seizing with quiet glee every possible chance to get out in the gale and

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climb. . . . "He certainly seems to be enjoying himself," Roger says out loud, and Arthur laughs.

"That Dougal!" he cries. "What a Brit he is. You know climbers are the same everywhere. I come all the way to Mars and find just the people you'd expect to find on Ben Nevis. Course it stands to reason, doesn't it? That New Scotland school and all."

It is true; from the very start of the colonization British climbers have been coming to Mars in search of new climbs, and many of them have stayed.

"And I'll tell you," Arthur continues, "those guys are never happier than when it's blowing force ten and dumping snow by the dumptruck. Or not snow, actually. More like sleet, that's what they want. One degree rain, or wet snow. Perfect. And you know why they want it? So they can come back in at the end of the day and say, 'Bloody desperate out today, eh mate?' They're all dying to be able to say that. 'Bluidy *das*perate, mite.' Ha! Do you know what I mean? It's like giving themselves a medal or something, I don't know."

Roger and Stephan, smiling, nod. "Very macho," Stephan says.

"But Dougal!" Arthur cries. "Dougal! He's too cool for that. He goes out there in the nastiest conditions he can possibly find—I mean look at him just now—he couldn't *wait* to get back out there! Didn't want to waste such a fine opportunity! And he climbs the hardest pitches he can find, too. Have you seen him? You've seen the routes he leaves behind. Man, that guy could climb buttered glass in a hurricane. And what does he say about it? Does he say that was pretty bloody desperate? No! He says," and Roger and Stephan join in, like a chorus: "How invigorating!"

"Yeah," Stephan says, laughing. "Pretty invigorating out there, all right."

"The Scots," Arthur says, giggling away. "Martian Scots, no less. I can't believe it."

"It's not just the Scots are strange," Roger points out. "What about you, Arthur? I notice you getting quite a giggle out of all this yourself, eh?"

"Oh, yeah, yeah," Arthur says. "I'm having a good time. Aren't you? I'll tell you, once we got on the oxygen I started feeling great. Before that it wasn't so easy. The air seemed really thin, I mean *really* thin. Elevations here don't mean anything to me, I mean you haven't got a sea level so what does elevation really mean, right? But your air is like nothing, man. So when we got on the bottle I could really feel the difference. A lifesaver. And then there's the gravity! Now that's wonderful. What is it, two fifths of a gee? Practically nothing! You might as well be on the moon! As soon as I learned to balance properly, I really started to have a good time. Felt like Superman. On this planet it just isn't that

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hard to go uphill, that's all." He laughs, toasts the other two with tea: "On Mars, I'm Superman."

High altitude pulmonary edema works fast, and one either succumbs or recovers very quickly. When Stephan's lungs are completely clear Hans orders him to keep on maximum oxygen intake, and he is given a light load and ordered to take it slow and only move up from one low camp to the next. At this point, Roger thinks, it would be more difficult to get him back down the cliff than keep on going to the top; a common enough climbing situation, but one that no one talks about. Stephan complains about his reduced role, but agrees to go along with it. For his first few days back out Roger teams with him and keeps a sharp eye on him. But Stephan climbs fairly rapidly, and only complains at Roger's solicitousness, and at the cold winds. Roger concludes he is all right.

Back to portering. Hans and Arthur are out in the lead, having a terrible time with a broad, steep rampart that they are trying to force directly. For a couple of days they are all stalled as the camps are stocked, and the lead party cannot make more than fifty or seventy-five meters a day. One evening on the radio while Hans describes a difficult overhang, Marie gets on the horn and starts in. "Well, I don't know what's going on up there, but with Stephan sucking down the oxygen and you all making centimeters a day we're going to end up stuck on this damn cliff for good! What? I don't give a fuck *what* your troubles are, mate—if you can't make the lead you should bloody well get down and let somebody on there who can!"

"This is a big tuff band," Arthur says defensively. "Once we get above this it's more or less a straight shot to the top—"

"*If* you've got any bloody oxygen it is! Look what is this, a co-op? I didn't join a fucking co-op!"

Roger watches Eileen closely. She is listening carefully to the exchange, her finger on the intercom, a deep furrow between her eyes, as if she is concentrating. He is surprised she has not already intervened. But she lets Marie get off another couple of blasts, and only then does she cut in: "Marie! Marie! Eileen here—"

"I know that."

"Arthur and Hans are scheduled to come down soon. Meanwhile, shut up."

And the next day, Arthur and Hans put up three hundred meters of fixed rope, and top the tuff band. When Hans announces this on the sunset radio call (Roger can just hear Arthur in the background, saying in falsetto "So there! So there!"), a little smile twitches Eileen's mouth,

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before she congratulates them and gets on to the orders for the next day. Roger nods thoughtfully.

After they get above Hans and Arthur's band, the slope lays back a bit and progress is more rapid, even in the continuous winds. The cliff here is like a wall of immense irregular bricks which have been shoved back, so that each brick is set a bit behind the one below it. This great jumble of blocks and ledges and ramps makes for easy zig-zag climbing, and good campsites. One day, Roger stops for a break and looks around. He is portering a load from middle camp to high camp, and has gotten ahead of Eileen. No one in sight. There is a cloud layer far below them, a grey rumpled blanket covering the whole world. Then there is the vertical realm of the cliff-face, a crazed jumble of a block-wall, which extends up to a very smooth, almost featureless cloud layer above them. Only the finest ripples, like waves, mar this grey ceiling. Floor and ceiling of cloud, wall of rock: it seems for a moment that this climb will go on eternally, it is a whole world, an infinite wall that they will climb forever. When has it been any different? Sandwiched like this, between cloud and cloud, it is easy not to believe in the past; perhaps the planet is a cliff, endlessly varied, endlessly challenging.

Then in the corner of Roger's eye, a flash of color. He looks at the deep crack between the ledge he is standing on and the next vertical block. In the twisted ice nestles a patch of moss campion. Cushion of black-green moss, a circle of perhaps a hundred tiny dark pink flowers on it. After three weeks of almost unrelieved black and white, the color seems to burst out of the flowers and explode in his eyes. Such a dark, intense pink! Roger crouches to inspect them. The moss is very finely textured, and appears to be growing directly out of the rock, although no doubt there is some sand back in the crack. A seed or a scrap of moss must have been blown off the shield plateau and down the cliff, to take root here.

Roger stands, looks around again. Eileen has joined him, and she observes him sharply. He pulls his mask to the side. "Look at that," he says. "You can't get away from it anywhere!"

She shakes her head. Pulls her mask down. "It's not the new landscape you hate so much," she says. "I saw the way you were looking at that plant. And it's just a plant, after all, doing its best to live. No, I think you've made a displacement. You use topography as a symbol. It's not the landscape, it's the people. It's the history we've made that you dislike. The terraforming is just part of it—the visible sign of a history of exploitation."

Roger considers it. "We're just another Terran colony, you mean. Colonialism—"

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"Yes! That's what you hate, see? Not topography, but history. Because the terraforming, so far, is a waste. It's not being done for any good purpose."

Uneasily Roger shakes his head. He has not thought of it like that, and isn't sure he completely agrees: it's the land that has suffered the most, after all. Although—

Eileen continues: "There's some good in that, if you think about it. Because the landscape isn't going to change back, ever. But history—history must change, by definition."

And she takes the lead, leaving Roger to stare up after her.

The winds die in the middle of the night. The cessation of tent noise wakes Roger up. It is bitterly cold, even in his bag. It takes him a while to figure out what woke him; his oxygen is still hissing softly in his face. When he figures out what did it, he smiles. Checking his watch, he finds it is almost time for the mirror dawn. He sits up and turns on the stove for tea. Eileen stirs in her sleeping bag, opens one eye. Roger likes watching her wake; even behind the mask, the shift from vulnerable girl to expedition leader is easy to see. It's like ontogeny recapitulating phylogeny: coming to consciousness in the morning recapitulates maturation in life. Now all he needs is the Greek terminology, and he will have a scientific truth. Eileen pulls off her oxygen mask and rolls onto one elbow.

"Want some tea?" he says.

"Yeah."

"It'll be a moment."

"Hold the stove steady—I've got to pee." She stands in the tent doorway, sticks a plastic urine scoop into the open fly of her pants, urinates out the door. "Wow! Sure is cold out. And clear! I can see stars."

"Great. The wind's died, too, see?"

Eileen crawls back into her bag. They brew their tea with great seriousness, as if mixing delicate elixirs. Roger watches her drink.

"Do you really not remember us from before?" he asks.

"Nooo . . ." Eileen says slowly. "We were in our twenties, right? No, the first years I really remember are from my fifties, when I was training up in the caldera. Wall climbs, kind of like this, actually." She sips. "But tell me about us."

Roger shrugs. "It doesn't matter."

"It must be odd. To remember when the rest don't."

"Yes, it is."

"I was probably awful at that age."

"No, no. You were fine."

She laughs. "I can't believe that. Unless I've gone downhill since then."

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"Not at all! You sure couldn't have done all this back then."

"I believe that. Getting half an expedition strung out all over a cliff, people sick—"

"No, no. You're doing fine."

She shakes her head. "You can't pretend this climb has gone well. I remember that much."

"What hasn't gone well hasn't been your fault, as you must admit. In fact, given what has happened, we're doing very well, I think. And that's mostly your doing. Not easy with Frances and Stephan, and the storm, and Marie."

"Marie!"

They laugh. "And this storm," Roger says. "That night climb we did, getting Stephan down!" He sips his tea.

"That was a wild one," Eileen says firmly.

Roger nods. They have that. He gets up to pee himself, letting in a blast of intensely cold air. "My God that's cold! What's the temperature?"

"Sixty below, outside."

"Oh. No wonder. I guess that cloud cover was doing us *some* good." Outside it is still dark, and the ice-bearded cliff-face gleams whitely under the stars.

"I like the way you lead the expedition," Roger says into the tent as he zips up. "It's a very light touch, but you still have things under control."

Only slurping sounds from Eileen. Roger zips the tent door closed and hustles back into his bag.

"More tea?" she asks.

"Definitely."

"Here—roll back here, you'll warm up faster, and I could use the insulation myself." Roger nods, shivering, and rolls his bag into the back side of hers, so they are both on one elbow, spooned together.

They sip tea and talk. Roger warms up, stops shivering. Pleasure of empty bladder, of contact with her. They finish the tea and doze for a bit in the warmth. Keeping the oxygen masks off prevents them from falling into a deep sleep. "Mirrors'll be up soon." "Yeah." "Here—move over a bit." Roger remembers when they were lovers, so long ago. Previous lifetime. She was the city dweller then, he the canyon crawler. Now . . . now all the comfort, warmth and contact have given him an erection. He wonders if she can feel it through the two bags. Probably not. Hmmm. He remembers suddenly—the first time they made love was in a tent. He went to bed, and she had come right into his little cubicle of the communal tent and jumped him! Remembering it does nothing to make his erection go away. He wonders if he can get away with a similar sort of act here. They are definitely pressed together hard. All that climbing

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together: Eileen pairs the climbing teams, so she must have enjoyed it too. And climbing together has that sort of dancelike teamwork—boulder ballet; and the constant kinetic juxtaposition, the felt relationship of the rope, has a certain sensuousness to it. It is a physical partnership, without a doubt. Of course all this can be true and climbing remain a profoundly non-sexual relationship—there are certainly other things to think about. But now . . .

Now she is dozing again. He thinks about her climbing, her leadership. The things she said to him back down in the first camps, when he was so depressed. A sort of teacher, really.

Thoughts of that lead him to memories of his past, of the failed work. For the first time in many days his memory presents him with the usual parade of the past, the theater of ghosts. How can he ever assume such a long and fruitless history? Is it even possible?

Mercifully the tea's warmth, and the mere fact of lying prone, have their way with him, and he dozes off himself.

The day dawns. Sky like a sheet of old paper, the sun a big bronze coin below them to the east. The sun! Wonderful to see sunlight, shadows. In the light the cliff face looks sloped back an extra few degrees, and it seems there is an end to it up there. Eileen and Roger are in the middle camp, and after ferrying a load to the high camp they follow the rope's zig-zag course up the narrow ledges. The fine, easy face, the sunlight, the dawn's talk, the plains of Tharsis *so* far below: all conspire to please Roger. He is climbing more strongly than ever, hopping up the ledges, enjoying the variety of forms exhibited by the rock. Such a beauty to rough, plated, angular, broken rock.

The face continues to lay back, and at the top of one ledge ramp they find themselves at the bottom of a giant amphitheater filled with snow. And the top of this white half-bowl is . . . sky. The top of the escarpment, apparently. Certainly nothing but sky above it. Dougal and Marie are about to start up it, and Roger joins them. Eileen stays behind to collect the others.

The technically difficult sections of the climb are done. The upper edge of the immense cliff has been rounded off by erosion, broken into alternating ridges and ravines. Here they stand at the bottom of a big bowl broken in half; at bottom the slope is about forty degrees, and it curves up to a final wall that is perhaps sixty degrees. But the bottom of the bowl is filled with deep drifts of light, dry, granular snow, sheeted with a hard layer of windslab. Crossing this stuff is difficult, and they trade the lead often. The leader crashes through the windslab and sinks to his or her knees, or even to the waist, and thereafter has to lift a foot over

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the windslab above, crash through again, and in that way struggle uphill through the snow. They secure the rope with deadmen—empty oxygen tanks in this case, buried deep in the snow. Roger takes his lead, and quickly begins to sweat under the glare of the sun. Each step is an effort, worse than the step before because of the increasing angle of the slope. After ten minutes he gives the lead back to Marie. Twenty minutes later it is his turn again—the other two can endure it no longer than he can. The steepness of the final wall is actually a relief, as there is less snow.

They stop to strap crampons on their boots. Starting again they fall into a slow, steady rhythm. Kick, step, kick, step; twenty of those, a stop to rest. Time goes away. They don't bother to speak when the lead changes hands: nothing to say. No one wants to break the pace. Kick, step, kick, step, kick, step. Glare of light breaking on snow. The taste of sweat.

When Roger's tenth turn in the lead comes, he sees that he is within striking distance of the top of the wall, and he resolves not to give up the lead again. The snow here is soft under windslab, and he must lean up, dig away a bit with his ice axe, swim up to the new foothold, dig away some more—on and on, gasping into the oxygen mask, sweating profusely in the suddenly overwarm clothing. . . . But he's getting closer. Dougal is behind him. He finds the pace again and sticks to it. Nothing but the pace. Twenty steps, rest. Again. Again. Again. Sweat trickles down his spine, even his feet might warm up. Sun glaring off the steep snow.

He stumbles onto flatness. It feels like some terrible error, like he might fall over the other side. But he is on the edge of a giant plateau, which swoops up in a broad conical shape, too big to be believed. He sees a flat boulder almost clear of snow and staggers over to it. Dougal is beside him, pulling oxygen mask to one side of face: "Looks like we've topped the wall!" Dougal says, looking surprised. Gasping, Roger laughs.

As with all cliff climbs, topping out is a strange experience. After a month of vertical reality, the huge flatness seems all wrong—especially this snowy flatness that extends like a broad fan to each side. The snow ends at the broken edge of the cliff behind them, extends high up the gentle slope of the conical immensity before them. It is easy to believe they stand on the flank of the biggest volcano in the solar system.

"I guess the hard part is over," Dougal says matter-of-factly.

"Just when I was getting in shape," says Roger, and they both laugh.

A snowy plateau, studded with black rocks, and some big mesas. To the east, empty air: far below, the forests of Tharsis. To the northwest, a hill sloping up forever.

Marie arrives and dances a little jig on the boulder. Dougal hikes back

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to the wall and drops into the amphitheater again, to carry up another load. Not much left to bring; they are almost out of food. Eileen arrives, and Roger shakes her hand. She drops her pack and gives him a hug. They pull some food from the packs and eat a cold lunch while watching Hans, Arthur, and Stephan start up the bottom of the bowl. Dougal is already almost down to them.

When they all reach the top, in a little string led by Dougal, the celebrating really begins. They drop their packs, they hug, they shout, Arthur whirls in circles to try to see it all at once, until he makes himself dizzy. Roger cannot remember feeling exactly like this before.

"Our cache is a few kilometers south of here," Eileen says after consulting her maps. "If we get there tonight we can break out the champagne."

They hike over the snow in a line, trading the lead to break a path. It is a pleasure to walk over flat ground, and spirits are so light that they make good time. Late in the day—a full day's sunshine, their first since before Base Camp—they reach their cache, a strange camp full of tarped down, snow-drifted piles, marked by a lava causeway that ends a kilometer or so above the escarpment.

Among the new equipment is a big mushroom tent. They inflate it, and climb in through the lock and up onto the tent floor for the night's party. Suddenly they are inside a giant transparent mushroom, bouncing over the soft clear raised floor like children on a feather bed; the luxury is excessive, ludicrous, inebriating. Champagne corks pop and fly into the transparent dome of the tent roof, and in the warm air they quickly get drunk, and tell each other how marvelous the climb was, how much they enjoyed it—the discomfort, exhaustion, cold, misery, danger, and fear already dissipating in their minds, already turning into something else.

The next day Marie is not at all enthusiastic about the remainder of their climb. "It's a walk up a bloody hill! And a long walk at that!"

"How else are you going to get down?" Eileen asks acerbically. "Jump?"

It's true; the arrangements they have made force them to climb the cone of the volcano. There is a railway that descends from the north rim of the caldera to Tharsis and civilization; it uses for a rampway one of the great lava spills that erase the escarpment to the north. But first they have to get to the railway, and climbing the cone is probably the fastest, and certainly the most interesting, way to do that.

"You could climb down the cliff alone," Eileen adds sarcastically. "First solo descent. . . ."

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Marie, apparently feeling the effects of last night's champagne, merely snarls and stalks off to snap herself into one of the cart harnesses. Their new collection of equipment fits into a wheeled cart, which they must pull up the slope. For convenience they are already wearing the space-suits that they will depend on higher up; during this ascent they will climb right out of Mars's new atmosphere. They look funny in their silvery-green suits and clear helmets, Roger thinks; it reminds him of his days as a canyon guide, when such suits were necessary all over Mars. The common band of the helmet radios makes this a more social event than the cliff climb, as does the fact that all seven of them are together, four hauling the cart, three walking freely ahead or behind. From climb to hike: the first day is a bit anticlimactic.

On the snowy southern flank of the volcano, signs of life appear everywhere. Goraks circle them by day, on the lookout for a bit of refuse; ball owls dip around the tent at dusk like bats. On the ground Roger sees marmots on the boulders and volcanic knobs, and in the system of ravines cut into the plateau they find twisted stands of Hokkaido pine, chir pine and noctis juniper. Arthur chases a pair of Dall sheep with their curved horns, and they see prints in the snow that look like bear tracks. "Yeti," Dougal says. One mirror dusk they catch sight of a pack of snow wolves, strung out over the slope to the west. Stephan spends his spare time at the edges of the new ravines, sketching and peering through binoculars. "Come on, Roger," he says. "Let me show you those otterines I saw yesterday."

"Bunch of mutants," Roger grumbles, mostly to give Stephan a hard time. But Eileen is watching him to see his response, and dubiously he nods. What can he say? He goes with Stephan to the ravine to look for wildlife. Eileen laughs at him, eyes only, affectionately.

Onward, up the great hill. It's a six-percent grade, very regular, and smooth except for the ravines and the occasional small crater or lava knob. Below them, where the plateau breaks to become the cliff, the shield is marked by some sizeable mesas—features, Hans says, of the stress that broke off the shield. Above them, the conical shape of the huge volcano is clearly visible; the endless hill they climb slopes away to each side equally, and far away and above they see the broad, flat peak. They've got a long way to go. Wending between the ravines is easy, and the esthetic of the climb, its only point of technical interest, becomes how far they can hike every day. It's 250 kilometers from the escarpment up to the crater rim; they try for twenty-five a day, and sometimes make thirty. It feels odd to be so warm; after the intense cold of the cliff climb,

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the spacesuits and the mushroom tent create a distinct disconnection from the surroundings.

Hiking as a group is also odd. The common band is a continuous conversation, that one can switch on or off at will. Even when not in a mood to talk, Roger finds it entertaining to listen. Hans talks about the areology of the volcano, and he and Stephan discuss the genetic engineering that makes the wildlife around them possible. Arthur points out features that the others might take for granted. Marie complains of boredom. Eileen and Roger laugh and add a comment once in a while. Even Dougal clicks into the band around mid-afternoon, and displays a quick wit, spurring Arthur toward one amazing discovery after another. "Look at that, Arthur, it's a yeti."

"What! You're kidding! Where?"

"Over there, behind that rock."

Behind the rock is Stephan, taking a shit. "Don't come over here!"

"You liar," Arthur says.

"It must have slipped off. I think a Weddell fox was chasing it."

"You're kidding!"

"Yes."

Eileen: "Let's switch to a private band. I can't hear you over all the rest."

Roger: "Okay. Band 33."

". . . Any reason for that band in particular?"

"Ah—I think so." It *was* a long time ago, but this is the kind of weird fact his memory will pop up with. "It may be our private band from our first hike together."

She laughs. They spend the afternoon behind the others, talking.

One morning Roger wakes early, just after mirror dawn. The dull horizontal rays of the quartet of parhelia light their tent. Roger turns his head, looks past his pillow, through the tent's clear floor. Thin soil over rock, a couple of meters below. He sits up; the floor gives a little, like a gel bed. He walks over the soft plastic slowly so that he will not bounce any of the others, who are sleeping out where the cap of the roof meets the gills of the floor. The tent really does resemble a big clear mushroom; Roger descends clear steps in the side of the stalk to get to the lavatory, located down in what would be the mushroom's volvus. Emerging he finds a sleepy Eileen sponging down in the little bath next to the air compressor and regulator. "Good morning," she says. "Here, will you get my back?"

She hands him the sponge, turns around. Vigorously he rubs down the

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hard muscles of her back, feeling a thrill of sensual interest. That slope, where back becomes bottom: beautiful.

She looks over her shoulder. "I think I'm probably clean now."

"Ah." He grins. "Maybe so." He gives her the sponge. "I'm going for a walk before breakfast."

"Okay. Thanks."

Roger dresses, goes through the lock, walks over to the head of the meadow they are camped by: a surarctic meadow, covered with moss and lichen, and dotted with mutated edelweiss and saxifrage. A light frost coats everything in a sparkling blanket of white, and Roger feels his boots crunch as he walks.

Movement catches his eye and he stops to observe a white-furred mouse hare, dragging a loose root back to its hole. There is a flash and flutter, and a snow finch lands in the hole's entrance. The tiny hare looks up from its work, chatters at the finch, nudges past it with its load. The finch does its bird thing, head shifting instantaneously from one position to the next and then freezing in place. It follows the hare into the hole. Roger has heard of this, but he has never seen it. The hare scampers out, looking for more food. The finch appears, its head snaps from one position to the next. An instant swivel and it is staring at Roger. It flies over to the scampering hare, dive bombs it, flies off. The hare has disappeared down another hole.

Roger crosses the ice stream in the meadow, crunches up the bank. There beside a waist-high rock is an odd pure white mass, with a white sphere at the center of it. He leans over to inspect it. Slides a gloved finger over it. Some kind of ice, apparently. Unusual looking.

The sun rises and a flood of yellow light washes over the land. The yellowish white half-globe of ice at his feet looks slick. It quivers; Roger steps back. The ice is shaking free of the rock wall. The middle of the bulge cracks. A beak stabs out of the globe, breaks it open. Busy little head in there. Blue feathers, long crooked black beak, beady little black eyes. "An egg?" Roger says. But the pieces are definitely ice—he can make them melt between his gloved fingers, and feel their coldness. The bird (though its legs and breast seem to be furred, and its wings stubby, and its beak sort of fanged) staggers out of the white bubble, and shakes itself like a dog throwing off water, although it looks dry. Apparently the ice is some sort of insulation—a home for the night, or no—for the winter, no doubt. Yes. Formed of spittle or something, walling off the mouth of a shallow cave. Roger has never heard of such a thing, and he watches open-mouthed as the bird-thing takes a few running steps and glides away.

A new creature steps on the face of green Mars.

* * *

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That afternoon they hike out of the realm even of the surarctic meadows. No more ground cover, no more flowers, no more small animals. Nothing now but cracks filled with struggling moss, and great mats of otoo lichen. Sometimes it is as if they walk on a thin carpet of yellow, green, red, black—splotches of color like that seen in the orbicular jasper, spread out as far as they can see in every direction, a carpet crunchy with frost in the mornings, a bit damp in the mid-day sun, a carpet crazed and parti-colored. "Amazing stuff," Hans mutters, poking at it with a finger. "Half our oxygen is being made by this wonderful symbiosis. . . ."

Late that afternoon, after they have stopped and set up the tent and tied it down to several rocks, Hans leaps through the lock waving his atmosphere kit and hopping up and down. "Listen," he says, "I just radioed the summit station for confirmation of this. There's a high pressure system over us right now. We're at 14,000 meters above the datum, but the barometric pressure is up to 350 millibars because there's a *big* cell of air moving over the flank of the volcano this week." The others stare. Hans says, "Do you see what I mean?"

"No," exclaim three voices at once.

"High-pressure zone," Roger says unhelpfully.

"Well," Hans says, standing at attention. "It's enough to breathe! Just enough, but enough, I say. And of course no one's ever done it before—done it *this high* before, I mean. Breathed free Martian air."

"You're kidding!"

"So we can establish the height record right here and now! I propose to do it, and I invite whoever wants to to join me."

"Now wait a minute," Eileen says.

But everyone wants to do it.

"Wait a minute," says Eileen. "I don't want everyone taking off their helmets and keeling over dead up here, for God's sake. They'll revoke my license. We have to do this in an orderly fashion. And *you*—" she points at Stephan. "You *can't* do this. I forbid it."

Stephan protests loudly and for a long time, but Eileen is adamant, and Hans agrees. "The shock could start your edema again, for sure. None of us should do it for long. But for a few minutes, it will go. Just breathe through the mesh facemasks, to warm the air."

"You can watch and save us if we keel over," Roger tells Stephan.

"Shit," Stephan says. "All right. Do it."

They gather just out from under the cap of the tent, where Stephan can, theoretically, drag them back through the lock if he has to. Hans checks his barometer one last time, nods at them. They stand in a rough circle, facing in. Everyone begins to unclip helmet latches.

Roger gets his unclipped first—the years as canyon guide have left

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their mark on him, in little ways like this—and he lifts the helmet up. As he places it on the ground the cold strikes his head and makes it throb. He sucks down a breath: dry ice. He refuses the urge to hyperventilate, fearful he will chill his lungs too fast and damage them. Regular breathing, he thinks, in and out. In and out. Though Dougal's mouth is covered by a mesh mask, Roger can still tell he is grinning widely. Funny how the upper face reveals that. Roger's eyes sting, his chest is frozen inside, he sucks down the frigid air and every sense quickens, breath by breath. The edges of pebbles a kilometer away are sharp and clear. Thousands of edges. "Like breathing nitrous oxide!" Arthur cries in a lilting high voice. He whoops like a little kid and the sound is odd, distant. Roger walks in a circle, on a quilt of rust lava and gaily covered patches of lichen. Intense awareness of the process of breathing seems to connect his consciousness to everything he can see; he feels like a strangely shaped lichen, struggling for air like all the rest. Jumble of rock, gleaming in the sunlight: "Let's build a cairn," he says to Dougal, and can hear his voice is wrong somehow. Slowly they step from rock to rock, picking them up and putting them in a pile. The interior of his chest is perfectly defined by each intoxicating breath. Others watching bright-eyed, sniffing, involved in their own perceptions. Roger sees his hands blur through space, sees the flesh of Dougal's face pulsing pinkly, like the flowers of moss campion. Each rock is a piece of Mars, he seems to float as he walks, the side of the volcano gets bigger, bigger, bigger; finally he is seeing it at true size. Stephan strides among them grinning through his helmet, holding up both hands. It's been ten minutes. The cairn is not yet done, but they can finish it tomorrow. "I'll make a messenger cannister for it tonight!" Dougal wheezes happily. "We can all sign it!" Stephan begins to round them all up. "Incredibly cold!" Roger says, still looking around as if he has never seen any of it before—any of anything.

Dougal and he are the last two into the lock; they shake hands. "Invigorating, eh?" Roger nods. "Very fine air."

But the air is just part of all the rest of it—part of the world, not of the planet. Right? "That's right," Roger says, staring through the tent wall down the endless slope of the mountain.

That night they celebrate with champagne again, and the party gets wild as they become sillier and sillier. Marie tries to climb the inner wall of the tent by grabbing the soft material in her hands, and falls to the floor repeatedly; Dougal juggles boots; Arthur challenges all comers to arm-wrestle, and wins so quickly they decide he is using "a trick," and disallow his victories; Roger tells government jokes ("How many min-

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isters does it take to pour a cup of coffee?"), and institutes a long and vigorous game of spoons. He and Eileen play next to each other and in the dive for spoons they land on each other. Afterwards, sitting around the heater singing songs, she sits at his side and their legs and shoulders press together. Kid stuff, familiar and comfortable, even to those who can't remember their own childhood.

So that, that night, after everyone has gone out to the little sleeping nooks at the perimeter of the tent's circular floor, Roger's mind is full of Eileen. He remembers sponging her down that morning. Her playfulness this evening. Climbing in the storm. The long nights together in wall tents. And once again the distant past returns—his stupid, uncontrollable memory provides images from a time so far gone that it shouldn't matter any more . . . but it does. It was near the end of that trip, too. She snuck into his little cubicle and jumped him! Even though the thin panels they used to create sleeping rooms were actually much less private than what they have here; this tent is big, the air regulator is loud, the seven beds are well-spaced and divided from each other by ribbing—clear ribbing, it is true, but now the tent is dark. The cushioned floor under him (so comfortable that Marie calls it uncomfortable) gives as he moves, without even trembling a few feet away, and it never makes a sound. In short, he could crawl silently over to her bed, and join her as she once joined him, and it would be entirely discreet. Turnabout is fair play, isn't it? Even three hundred years later? There isn't much time left on this climb, and as they say, fortune favors the bold. . . .

He is about to move when suddenly Eileen is at his side, shaking his arm. In his ear she says, "I have an idea."

And afterwards, teasing: "Maybe I *do* remember you."

They trek higher still, into the zone of rock. No animals, plants, insects; no lichen; no snow. They are above it all, so high on the volcano's cone that it is getting difficult to see where their escarpment drops to the forests; two hundred kilometers away and fifteen kilometers below, the scarp's edge can only be distinguished because that's where the broad ring of snow ends. They wake up one morning and find a cloud layer a few k's downslope, obscuring the planet below. They stand on the side of an immense conical island in an even greater sea of cloud: the clouds a white wave-furrowed ocean, the volcano a great rust rock, the sky a low dark violet dome, all on a scale the mind can barely encompass. To the east, poking out of the cloud-sea, three broad peaks—an archipelago—the three Tharsis volcanoes in their well-spaced line, princes to the king Olympus. Those volcanoes, fifteen hundred kilometers away, give them a little understanding of the vastness visible. . . .

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The rock up here is smoothly marbled, like a plain of petrified muscles. Individual pebbles and boulders take on an eerie presence, as if they are debris scattered by Olympian gods. Hans's progress is greatly slowed by his inspection of these rocks. One day, they find a mound that snakes up the mountain like an esker, or a Roman road; Hans explains it is a river of lava harder than the surrounding rock, which has eroded away to reveal it. They use it as an elevated road, and hike on it for all of one long day.

Roger picks up his pace, leaves the cart and the others behind. In a suit and helmet, on the lifeless face of Mars: centuries of memory flood him, he finds his breathing clotted and uneven. This is his country, he thinks. This is the transcendent landscape of his youth. It's still here. It can't be destroyed. It will always be here. He finds that he has almost forgotten, not what it looks like, but what it *feels* like to be here in such wilderness. That thought is the thorn in the exhilaration that mounts with every step. Stephan and Eileen, the other two out of harness this day, are following him up. Roger notices them and frowns. I don't want to talk about it, he thinks. I want to be alone in it.

But Stephan hikes right by him, looking overwhelmed by the desolate rock expanse, the world of rock and sky. Roger can't help but grin.

And Eileen is content just to walk with him.

Next day, however, in the harnesses of the cart, Stephan plods beside him and says, "Okay, Roger, I can see why you love this. It is sublime, truly. And in just the way we want the sublime—it's a pure landscape, a pure place. But . . ." He plods on several more steps, and Roger and Eileen wait for him to continue, pulling in step together. "But it seems to me that you don't need the whole planet this way. This will always be here. The atmosphere will never rise this high, so you'll always have this. And the world down below, with all that life growing everywhere—it's beautiful." The beautiful and the sublime, Roger thinks. Another duality. "And maybe we need the beautiful more than the sublime?"

They haul on. Eileen looks at the mute Roger. He cannot think what to say. She smiles. "If Mars can change, so can you."

"The intense concentration of self in the middle of such a heartless immensity, my God! who can tell it?"

That night Roger seeks out Eileen, and makes love to her with a peculiar urgency; and when they are done he finds himself crying a bit, he doesn't know why; and she holds his head against her breast, until he shifts, and turns, and falls asleep.

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And the following afternoon, after climbing all day up a hill that grows ever gentler, that always looks as if it will peak out just over the horizon above them, they reach flattened ground. An hour's hike, and they reach the caldera wall. They have climbed Olympus Mons.

They look down into the caldera. It is a gigantic brown plain, ringed by the round cliffs of the caldera wall. Smaller ringed cliffs inside the caldera drop to collapse craters, then terrace the round plain with round depressions, which overlap each other. The sky overhead is almost black; they can see stars, and Jupiter. Perhaps the high evening star is Earth. The thick blue rind of the atmosphere actually starts below them, so that they stand on a broad island in the middle of a round blue band, capped by a dome of black sky. Sky, caldera, ringed stone desolation. A million shades of brown, tan, red, rust, white. The planet Mars.

Along the rim a short distance stands the ruins of a Tibetan Buddhist lamasery. When Roger sees it his jaw drops. It is brown, and the main structure appears to have been a squarish boulder the size of a large house, carved and excavated until it is more air than stone. While it was occupied it must have been hermetically sealed, with airlocks in the doorways and windows fixed in place; now the windows are gone, and side buildings leaning against the main structure are broken-walled, roofless, open to the black sky. A chest-high wall of stone extends away from the outbuildings and along the rim; colored prayer wheels and prayer flags stick up from it on thin poles. Under the light touch of the stratosphere the wheels spin slowly, the flags flap limply.

"The caldera is as big as Luxembourg."
"You're kidding!"
"*No.*"

Finally even Marie is impressed. She walks to the prayer wall, touches a prayer wheel with one hand; looks out at the caldera, and from time to time spins the wheel, absently.

"Invigorating view, eh?"

It will take a few days to hike around the caldera to the railway station, so they set up camp next to the abandoned lamasery, and the heap of brown stone is joined by a big mushroom of clear plastic, filled with colorful gear.

The climbers wander in the late afternoon, chatting quietly over rocks,

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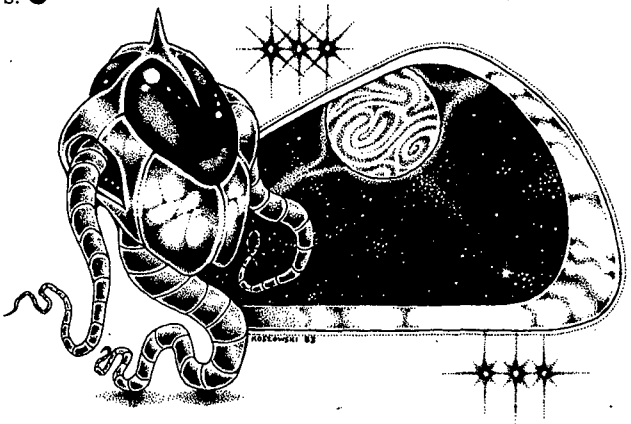
or the view into the shadowed caldera. Several sections of the ringed inner cliffs look like good climbing.

The sun is about to descend behind the rim to the west, and great shafts of light spear the indigo sky below them, giving the mountaintop an eerie indirect illumination. The voices on the common band are rapt and quiet, fading away to silence.

Roger gives Eileen a squeeze of the hand, and wanders off by himself. The ground up here is black, the rock cracked in a million pieces, as if the gods have been sledge-hammering it for eons. Nothing but rock. He clicks off the common band. It is nearly sunset. Great lavender shafts of light spear the purple murk to the sides, and overhead, stars shine in the blackness. All the shadows stretch off to infinity. The bright bronze coin of the sun grows big and oblate, slows in its descent. Roger circles the lamasery. Its western walls catch the last of the sun and cast a warm orange glaze over the ground and the ruined outbuildings. Roger kicks around the low prayer wall, replaces a fallen stone. The prayer wheels still spin—some sort of light wood, he thinks, cylinders carved with big black eyes and cursive lettering, and white paint, red paint, yellow paint, all chipped away. Roger stares into a pair of stoic Asian eyes, gives the wheel a slow spin, feels a little bit of vertigo. World everywhere. Even here. The flattened sun lands on the rim, across the caldera to the west. A faint gust of wind lofts a long banner out, ripples it slowly in dark orange air— "All right!" Roger says aloud, and gives the wheel a final hard spin and steps away, circles dizzily, tries to take in everything at once: "All right! All right. I give in. I accept."

He wipes red dust from the glass of his faceplate; recalls the little bird-thing, pecking free of clouded ice. A new creature steps on the peak of green Mars. ●



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ON BOOKS by Baird Searles

Brightness Falls From the Air
James Tiptree, Jr.
Tor, $14.95

Remember those great Dorothy Sayers novels in which everyone comes down to the country for a weekend house party and Lord Thingummy is done in with a billiard cue—or was it the toast rack?

Or alternatively those, not necessarily by that other lady, wherein a group of highly unlikely people are going to Istanbul on the Orient Express, and Lord Thingummy is done in with his shaving kit—or was it the saddle of lamb in the dining car?

James Tiptree, Jr. (whom we must note for those who don't know yet, is also female despite the *nom de plume*), has sort of combined those basic two ideas as a basis for her latest novel, *Brightness Falls From the Air*, and given them a cosmic, science-fictional twist. This makes the Orient Express, in comparison, look like the Toonerville Trolley.

Not that it's exactly a murder mystery, though there are murders aplenty, not to mention a suicide. But it's certainly a mystery thriller, though the two greatest crimes have already happened; two events which give rise to the complicated events of the plot.

The setting is the planet Damiem, on which there are exactly three humans, Federation-appointed guardians of the native race, the beautiful, winged, humanoid Dameii. The Dameii need guardians because they have, in the past, been subjected, as a race, to the most sickeningly brutal example of exploitation by the human race in its sickeningly brutal history. This involved not only the death, but the torture of many of the Dameii for the valuable liquid essences they exude under such circumstances.

To Damiem come a select group of tourists, to view the final passing of an expanding and dissipating nova front, the final remains of a neighboring star which was blown apart in a war years ago. A planet of that star, Vlyracocha, was the home of an old and pacific race. The Vlyracochans, who knew they were dying, were constructing the greatest repository of art and culture ever made, an artificial satellite that was in itself a work of art. This was destroyed, as well as planet and star, in a wanton act of violence by the captain of a human warship, the Deneb.

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The tourists are a peculiar and varied lot, all supposedly well-screened by the Federation powers-that-be. There is a maker of film documentaries who also does hard core porno, and his stable of four adolescent porno superstars. There is an eleven-year-old Prince, heir to the throne of a small but important planet, traveling on his own. There is a light-sculptor and there is a retired professor of neocybernetics-E. There is the Lady Marquise Pardalianches, a well-preserved beauty, traveling with her twin sister, who is even better preserved—the sister became a vegetable in an accident twenty years ago and hasn't changed (or moved) since. The Lady believes that some property of the nova front will help her sister.

And there are three "accidental" visitors, two men whose cold-sleep treatments had failed on the voyage and who had to be put off at Damiem, and a female Logistics Officer from the alien-run starship that has brought them all here.

Needless to say, not everyone is What They Appear To Be. By the time the night of the passing nova front is over, all sorts of intrigue, skullduggery, and past and future crimes have surfaced, infinitely complicated by the peculiar effects of the long-ago exploded alien artifact.

Ms. Tiptree, Jr. neatly evokes a busy multiracial and multicultural Galaxy, with a complex history and galography (don't bother to check it in the dictionary; I just made it up). And within this, has very cleverly combined mystery, thriller, and science fiction in a soufflé that stays up to the end.

The Fourth Horseman
By Alan E. Nourse
Pinnacle, $3.50 (paper)

Feeling misanthropic and just in the mood to be rid of the majority of mankind? Longing for a good end-of-civilization global disaster, but already tired of the latest wave of post-nuclear novels? Want to be scared, but bored with the blood-and-guts prose passing for scarey these days? Then Alan E. Nourse's *The Fourth Horseman* is just the ticket.

Nourse (pronounced "nurse"), a doctor and sometimes SF writer most active in the 1950s and '60s, hasn't given us anything really new in *The Fourth Horseman*, but style will out and he's put some old ingredients together so well that even the most demanding misanthrope will enjoy this latest outbreak of The Plague.

A female forest ranger goes into the mountains of Washington State on her solo rounds and is dead of a really nasty illness in her camp in a matter of days. A rowdy bunch of campers whom she has had to caution is soon ill, and they drag themselves home, unfortunately, to Colorado. One camper, on the way to Denver, sits next to a businessman who will eventually end up in Savannah, Ga.

The first major outbreak occurs in Colorado; it takes a while to

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identify the disease. While exhibiting many of the aspects of the classic Plague, it seems to skip the usual rodent flea connection. It is, in short, a mutated form, directly communicable from person to person.

And does it communicate! It's barely put down in Colorado, with a vaccine which worked perfectly when first tested by the beautiful microbiologist, but which later is minimally effective and leaves harmful side effects on the victim's vision and the nervous system. Then Savannah gets it, and it is not put down; the city, after three horrendous summer weeks in which the dead go unburied, goes up in flames set by rioting crowds. And then it turns up in New York, Chicago, Kansas City . . .

What's frightening is not just the speed with which such a horror can be passed around the world these days. (It took years in the Middle Ages to get from country to country.) It's that the matching speed of communications and transport don't do a bit of good. Nourse, with an acute sociological eye, specifies just why this sort of emergency can not be met despite the medical technology in our hands. And he is particularly cautionary about the pharmaceutical companies. It seems that the original vaccine that was tested *was* effective, but when the (supposedly fictional) company that had the patents realized what they had, they decided to sit on it for greater profits.

There are many, many characters, giving a montage of the events around the country, but three eventually emerge as protagonists: a forest ranger with some medical training, the boyfriend of the first victim; the beautiful microbiologist; and a tough lady reporter who realizes early that there's some sort of hanky panky going on. She virtually kidnaps the inventor of the original vaccine and enlists the aid of the other two; the four end up more or less home-distilling it in the ruins of Kansas, still having to fight the Feds and what's left of the FDA.

This *is* scarey stuff, ringing all too true. And Nourse adds one small mastertouch of evocative fantasy—which I will not be specific about; be surprised!—which is a stroke of genius. *The Fourth Horseman* is a tiptop disaster.

The Enchantress
By Han Suyin
Bantam, $16.95

Somehow Han Suyin is not an author I expected ever to see in this column. The Eurasian novelist (best known for *A Many Splendored Thing*) usually writes of the Far East, and the interface of its cultures with the West. In her latest novel, *The Enchantress*, she indeed does so again, but she has also created a most unusual fantasy novel.

It's set in the eighteenth century, and begins in what is now Switzerland, in a small village near Lausanne. The young twins, Colin and Bea, have a mixed heritage from their parents. The mother is from

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the Jorat Mountains, regarded as a haven of the Old Religion; Daout is indeed a "witch," whose family traditions (handed down in the female line) go back to the pre-Roman Celtic times of the Lake Dwellers.

Daout and Bea can communicate without speech (a talent shared to a degree by Colin because of his twinship), and Daout has other powers, though they are failing because of her love for her husband. As the last of the witch line, Bea is determined that love shall not limit her own life in the same way.

Colin, on the other hand, relates strongly to his father, an aristocrat disinherited because of his marriage; he is infatuated with the new scientific ideas of the Age of Reason, and is a master builder of the clockwork androids that are currently the rage of Europe and Eastern Royalty. Colin dreams of building the ultimate android. He writes, "I read dictionaries . . . I looked up the word *program* . . . and thought it might apply to what an android was compelled to do by its mechanism. We could, and did, by the adjustment of cams and springs, order a program to it, and now I dreamt of an android with many programs, from which it could choose."

Neither viewpoint—mystic or scientific—is highly regarded in the strictly Calvinist culture in which they live, and the twins' parents are killed by witch hunters. They then begin an epic odyssey, which eventually takes them to India, China under the Manchus, and finally the exotic and breathtaking Ayuthia, capital of the Kingdom of the Thai. Suyin describes this as a fantasy kingdom, indeed, but it did exist (Ayuthia was destroyed by the Burmese more thoroughly than Carthage by Rome, an event which is the climax of the story) and was apparently almost as fabulous as the novel makes it to be.

It is Ayuthia that is the enchantress of the title, but it is also Bea, who uses her witch powers throughout in pursuit of worldly power, while Colin continues his dream of perfecting the ultimate android. There's a lot that can be read into the story *re* the eternal dichotomy of mankind: the instinctual vs. the intellectual, Romanticism vs. classicism, stuff vs. nonsense if you will. Voltaire and Rousseau were this conflict made manifest at the time the novel takes place (Voltaire makes a couple of cameo appearances), but it's also the larger questions of science and faith, and even the West and the East that echo in Colin and Bea.

However, readers need not worry about any of that if they don't want to, since *The Enchantress* is also a superbly told story. Like the Tiptree, it's a skillful combining of disparate elements: fantasy, scientific fiction, and the historical novel. The results are something very different in the way of the fantastic from the ongoing spate of sword and sorcery we've been inundated with lately.

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Freaky Fables
By J.B. Handelsman
St. Martin's Press, $7.95 (paper)
Science Made Stupid
By Tom Weller
Houghton Mifflin, $6.95 (paper)

Fantasy readers don't have a lot to laugh at these days; humorous fantasy is in short supply. I haven't laughed much at anything fantastical since Terry Pratchett's truly funny novel, *The Colour of Magic*, was published a couple of years ago. However, take heart. If you're into mythology (and what true connoisseur of fantasy is not?), there are more than a few guffaws in J.B. Handelsman's *Freaky Fables*.

These are cartoons which appear weekly in *Punch* and are essentially strips of about twelve panels each. While the art is amusing enough, the guffaws are literally due to Handelsman's outrageous play with the names, people, places, and events of mythology. Greek, Arthurian, Biblical—it's all grist for his literate blasphemy.

Rather than going on about it (worse than useless with humor, the despair of the reviewer), some examples:

Sign on a shop entered by King Minos—"Daedalus & Son, Wingmakers and Labyrintherers."

Moral of the story of Callisto, turned into a bear and placed in the heavens by a jealous Juno: "The gods sometimes confer stardom (if that is any constellation)." (All the fables have their morals, of course.)

Hagar to Abraham, holding baby: "Call him Ishmael."

Moral of the story of the Trojan Horse: "Beware of gifts bearing Greeks."

Merlin to the Lady of the Lake, paying a Christmas call: "How nice to see all of you. Until today I have beheld only your right arm sticking out of the lake."

The fair Lady Gladys to Gareth, who has just slain a dragon: "You had better flee before its owner finds out."

Inevitably, the one-liners can give no idea of the wonderful silliness of all this. Fabulously mythbegotten is all one can say.

Science fiction readers have even less laughs currently. Funny SF has always been a problem; one would think that the possibilities were infinite, but somehow it seldom comes off. My theory is one that might prove heretical: the personality attracted to SF (reader *or* writer) is one that, with some sterling exceptions, is not usually overblessed with a sense of humor. (This could well mean a flood of letters beginning, "How wrong you are. Why, you should have seen good old McBem at the last convention. He was a real thigh-slapper wearing that lampshade . . . ." Please don't bother. As one who in the course of business meets thousands of SF readers, I'll stick to my theory even without concrete proof.)

Be that as it may, there is to hand a slim volume that, though peripheral, the SF reader could well get some laughs from. It's *Science Made Stupid* by Tom Weller,

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and it's just what it sounds like, a survey of basic science (with textbook-type drawings) that is more than a bit daft.

I particularly liked the section on Evolution. Weller has an ear for giving scientific nomenclature a twist that sounds right for a bare moment; the Metatarsal and Creosote Ages are just fine for geologic periods, and the orthodont, thesaurus, and duck-billed mastadon perfectly acceptable names for earlier life forms. There's a dandy pick-one list of reasons for the dinosaurs dying out ("earth struck by comet, earth struck by asteroid, earth struck by whipped cream pie, warts, herpes, rising expectations," etc.) which, it is noted, can also be used to explain the fall of Rome and the French Revolution. There are oblique references to *Alice in Wonderland* and a nice sideswipe at the Creationists.

The other sections are devoted to The Universe, Matter and Energy, The Earth, and the Descent of Man. None of it's very subtle, but subtlety isn't all that necessary for laughs. It would make a great gift for that friend who gives you a hard time for saying "Pleistocene" when you meant "Pliocene" (as some dimwit did in this column a couple of years back).

The Dreaming Jewels
By Theodore Sturgeon
Bluejay Books, $7.95 (paper)

Yes, it's the second Sturgeon reprint to be covered here in a little more than a year. Let's call it a one-man crusade, shall we? (Let's don't, come to think about it; at least one of the other genre reviewers seems to have the same penchant.) Theodore Sturgeon is hardly the forgotten writer, but his publishing history and writing career have both been so erratic that few of his books seem to be in print at any point, and staying in print is all important for the maintenance of a writer's rep. So a surprising number of younger readers don't know his work and he is perhaps the most neglected of the major writers of "the Golden Age," or more accurately, that astonishing period mid-century when SF really grew up.

Sturgeon was the quirkiest of them all, and arguably the best writer. He, along with Bradbury, established the humanist school of the genre. His stories are about people—sometimes very *odd* people, but always very human people. And emotion. And feeling.

So when his second best novel comes back into print, that fact should be noted. It's *The Dreaming Jewels* (aka *The Synthetic Man*, a rotten giveaway title), and being second best to *More Than Human* need be an embarrassment to no work.

Would you believe it's about a mistreated orphan boy who runs away and joins the carnival? Ah, but Horty *and* the carnival are something else.

There are these alien life forms that have existed on the earth for what is probably longer than man-

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kind's history, undiscovered by man because they don't compete with him on any level. They are living jewels, and among their indecipherable talents is the ability to duplicate life forms, sometimes perfectly, and, when freakish creatures result, sometimes imperfectly. The jewels do this unwittingly; it is a byproduct of what might be called their emotional life; they "dream" their creations.

The owner of the carnival, one Pierre Monetre ("Maneater" to his employees) collects freaks; he also collects the living jewels, being the only human to have discovered them and their bizarre properties. Zee, the lovely midget woman, is the only person in whom the Maneater has confided. When the orphan boy with the mangled hand, missing three fingers, shows up and has in his possession two of the jewels, to which he seems mentally connected, Zee sees a problem, to say the least. The Maneater is trying to learn how to use the jewels to create to order, and what he might want to create doesn't bear thinking about, since he hates humanity. Then Horty's fingers regenerate . . .

As with all of Sturgeon's stuff, one reads it thinking, "This is a *very* peculiar story." But one certainly does keep reading. It was from Sturgeon's work that I, for one, first realized what "style" was; Sturgeon has it, and a unique brand of it. A minor manifestation is the wonderful throwaway descriptions such as: "He dressed carefully in a subdued hound's tooth check and a tie designed strictly for the contracting pupil . . ."

If you don't know any Sturgeon, bait your hook and catch this one.

Shoptalk . . . Terry Pratchett's authentically hilarious novel, *The Colour of Magic* (mentioned above), has *finally* come out in paperback. I couldn't recommend it more highly (NAL, $2.95, paper) . . . A while back I jestingly speculated on an interactive, computer version of an SF classic; in the interim between speculation and publication, this has indeed happened. I tend to have too much respect for the integrity of a classic—or any good novel, for that matter—to be very gladsome about the idea, but literature of all sorts has survived movie versions and *Classic Comics*, so I suppose it can survive interactive computer versions. For those who like this sort of thing, the latest is *I, Damiano* based on R.A. MacAvoy's Damiano trilogy, available in Apple II and IBM compatible versions (Bantam, $39.95) . . . Fans of H. Beam Piper's *Lord Kalvin of Otherwhen* will note his reappearance in *Great Kings' War* (Ace, $2.95, paper); his new adventures on a parallel Earth where the New World was colonized from the West, among other differences, are chronicled by Roland Green. (Whatever happened to the final volume of Green's series about his own hero, Wandor? People keep asking. The last was published

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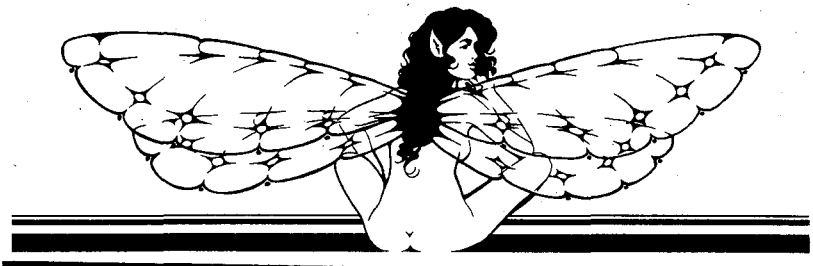
years ago—drop the other shoe, for Heaven's sakes.)

Robin McKinley has written a sequel (really a prequel) to her odd and fascinating *The Blue Sword.* The new one is called *The Hero and the Crown* (an uninspired title if ever there was one) and on publication it almost immediately won the prestigious Newbery Award (Greenwillow, $11.50) . . . And Poul Anderson, after some time, gives us a new novel of the Terran Empire and the Polesotechnic League, this one with a female protagonist, no less. She's the illegitimate daughter of Dominic Flandry and the novel is *The Game of Empire* (Baen Books, $3.50, paper).

Recent publications from those associated with this magazine include: *Spells: Isaac Asimov's Wonderful Worlds of Fantasy #4* edited by Isaac Asimov, Martin H. Greenberg, and Charles G. Waugh (NAL, $3.95, paper).

Books to be considered for review in this column should be submitted to Baird Searles, % The Science Fiction Shop, 56 8th Ave., New York, N.Y. 10014. ●



NEXT ISSUE

The October issue of *IAsfm* will feature our last Viewpoint, "The Mad Scientist's Primer," by the late Tom Rainbow. Our cover novella, "Green Days in Brunei," is by Bruce Sterling, and we will have stories by Frederik Pohl, Gardner Dozois and Michael Swanwick, John M. Ford, and others. Look for it at your local newsstand on August 27, 1985.

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SF CONVENTIONAL CALENDAR

by Erwin S. Strauss

With the lull in cons just before and after the WorldCon, now's a chance for us to look a little deeper than usual into the upcoming fall cons. Plan now for social weekends with your favorite SF authors, editors, artists and fellow fans. For a later, longer list, an explanation of cons, and a sample of SF folksongs, send me an SASE (addressed, stamped #10 (long) envelope) at 9850 Fairfax Sq. #232, Fairfax VA 22031. (703) 273-6111 is the hot line. If a machine answers, leave your area code & number. I'll call back on my nickel. Send an SASE when writing cons. Look for me at cons behind the big, iridescent "Filthy Pierre" badge, playing a music keyboard.

AUGUST, 1985

2–4—**August Party.** For info, write: **Box 335, Arnold MD 21012.** Or phone: **(703) 273–6111** (10 am to 10 pm only, not collect). Con will be held in: Tyson's VA, near Washington DC (if city omitted, same as in address) at the Bethesda Hyatt Regency. Guests will include: none planned. This is basically a Star Trek con, but it has a traditional SF con flavor, thanks to the policy of not having big-name guests.

2–4—**OmaCon.** At the Holiday Inn Holidome, Omaha NE. C. J. Cherryh, Bjo Trimble, Robert Daniels.

3–4—**GataCon.** Japan's 1985 national con, at Yahiko Sogo Bunka-kaikan (Inn), Yahiko Springs Japan.

9–11—**MystiCon Half.** Salem VA. Relaxacon at Jefferson Hall, put on by the folks who do MystiCon.

15–18—**SweCon, % Engholm, Maskinistgatan 9 ob, S-117 47, Stockholm, Sweden.** Their national con.

22–26—**AussieCon Two, 11863 W. Jefferson Blvd. #1, Culver City CA 90230.** Melbourne, Australia. The WorldCon for 1985. Gene (New Sun) Wolfe, editor/fan Ted White. Guests too numerous to mention.

23–25—**BabelCon, 3040 Byron Center #3, Wyoming MI 49509.** Grand Rapids MI. Media con.

24–25—**UniCon, Tokubetsu-2 Shoei-sho 6–1, Sayama-cho Iwamuro, Minamikouchi-gun Osaka 589, Japan.**

30–Sep. 2—**ChiliCon, Box 9612, Austin TX 78766.** The NASFIC for 1985. Join at the door for $70.

SEPTEMBER, 1985

6–8—**CopperCon, Box 11743, Phoenix AZ 85061. (602) 252–8114.** Rest after WorldCon. Nancy Springer. Low-key, for people burnt out after AussieCon and/or ChiliCon—or who couldn't get to them.

20–22—**MosCon, Box 8521, Moscow ID 83843. (208) 882–1611.** John Varley, artist Rick Sternbach, fan Richard Wright. Jacuzzi party, masquerade dance, Lensman awards, Sunday brunch, dead cow party.

21–22—**ValleyCon 10, Box 7202, Fargo ND 58111.** Patricia Wrede. Costume, pun & trivia contests.

27–29—**French Nat'l Con, % Vopalieo SF, 26 Sq. des Anciennes Provinces 49000, Angers, France.**

OCTOBER, 1985

4–6—**Contradiction, c/o Pepe, 147 Huntington Ave., Buffalo NY 14214.** Niagara Falls. Nancy Kress, Patricia McKillip, Judith Merril. Chocolate symposium & pigout, Batsu breakfast club, masquerade.

11–13—**WindyCon, Box 432, Chicago IL 60690.** Chicago's traditional con, at the Woodfield Hyatt.

11–13—***NotJustAnotherCon, c/o U. Mass. SF Society, RSO Box 104, U. of Mass., Amherst, MA 01003.***

AUGUST, 1986

28–Sep. 1—**ConFederation, 2500 N. Atlanta #1986, Smyrna GA 30080. (404) 438-3943.** Atlanta GA. Ray Bradbury, fan/editor Terry Carr, B. (Slow Glass) Shaw. The WorldCon. Join for $45 in July 1985.

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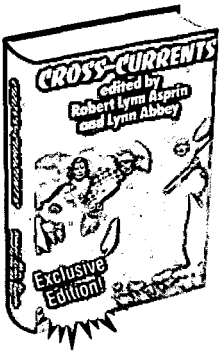

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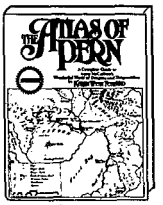

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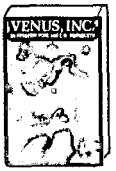

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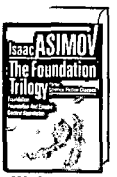

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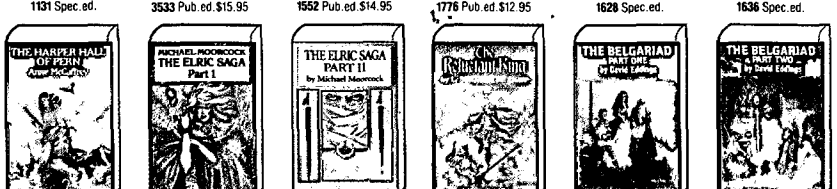

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